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TRAVELS
THROUGH
THE RHÆTIAN ALPS,
IN
THE YEAR MDCCLXXXVI.
FROM
ITALY TO GERMANY, THROUGH TYROL:
BY
ALBANIS BEAUMONT,
IN THE SERVICE OF THE KING OF SARDINIA.
THE WORK IS ORNAMENTED WITH
TEN LARGE AQUA-TINTA ENGRAVINGS,
FROM ORIGINAL DESIGNS, BY THE AUTHOR,
RELATIVE TO THE PICTURESQUE BEAUTIES OF THE MOST
INTERESTING VIEWS.

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MDCCLXXXVII.



TO
HIS ROYAL HIGHNESS
PRINCE WILLIAM FREDERICK.

S I R,

ALLOW me to have the honour of laying this book, such as it is, at your Royal Highness's feet. Had I understood the language of this country, as well as your Royal Highness understands some others, my book had, in one respect at least, required fewer apologies.

IN the character of a dedicator, it may be expected, Sir, that I should enlarge upon your Royal Highness's virtues and your talents; and upon the kind of man and of Prince which your countrymen are to see your Royal Highness become. But the situation, which I have had the honour of filling, for so many years, in your Royal Highness's illustrious family, effectually precludes me from any such language, whatever I may think. Your Royal Highness's countrymen will, undoubtedly, soon have opportunities of judging for themselves. My own opinion I know well; and I am sure my constant prayer is, that this country, as well as others, may find every occasion to form an opinion of your Royal Highness no less high, than that which is entertained by him, who has the honour to be, with the most profound respect,

S I R,

Your Royal Highness's

Most devoted and

Most obedient humble Servant,

ALBANIS BEAUMONT.

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INTRODUCTION.

THE study of geology, or the theory of the earth, seems to be one of the most natural delights of the human mind. It is not therefore suprising that it should interest so many of our men of science, and excite the researches of the greatest part of our ingenious travellers. One cannot then blame a person who, in the idea of having collected in the course of several years, in various parts of Europe, some observations and remarks, should present them to the public, with a desire of being useful to society; pointing out facts that may have escaped the notice of some who probably have visited the very spots which he is now going to describe; and also indicating to men much more enlightened than himself new objects that might be worthy their attention.

It is with this view solely that the author presumes to offer this feeble produce of his observations to all admirers of natural history, carefully describing whatever attracted his notice, not omitting at the same time to mention whatever might be of service to those who are more versed in lithology and mineralogy than he is.

THE theory of the earth, taken in its fullest extent, opens a field much too extensive to render the observations of an individual sufficient clearly to explain the cause of the various changes and revolutions that our globe has experienced since the first æra of its existence, as also what relates to the atmosphere, the formation of its continents, the principal origin of the primitive and secondary mountains, &c. It therefore appears, that notwithstanding the numberless hypotheses which have been transmitted to posterity, and the various conjectures advanced by the most eminent naturalists of our time, there will still remain obstacles to prevent any one's proceeding with certainty in this laborious and wide pursuit, without a thorough knowledge of every part that constitutes the globe; and, as the formation of the primitive mountains, which, according to all appearance, are its most ancient monuments, remains still undecided by the ablest among our naturalists, nothing effectual can be determined till that important point shall be ascertained, viz. whether those enormous pyramids of granite have been formed by chrySTALLIZATION or precipitation? That question must however remain unanswered till those great and wonderful primordial chains, which cross our globe, have been properly investigated in every direction, their extent certified, and also the exact distances between the mountains of the first, second, and third order, with their respective heights, their inclination, &c. But, as I have already observed, the undertaking would not only be too hazardous, but impossible for any single person to attempt. It is greatly to be lamented that our naturalists, as well as other well-informed travellers, have not been tempted to favour the public with the observations and remarks that have occurred to them in the different parts of the world they have visited. This idea has already been suggested by Mr. Deodat de Dolomieu, in his discourse read to the Society of Natural History at Paris, the 29th of July, 1791. See *Le Journal de Physique de Monsieur de*

la Méthérie, Octobre, 1791, p. 310. Such publications would not only prevent much trouble, but obviate innumerable difficulties, and throw fresh light on a subject of the greatest consequence to every naturalist.

THE author, confiding partly in a probability of the success of his new project, and partly in the goodness of the public, ventures to lay before them some observations made in the year 1786, when he was in the suite, as he has the honour to be still, of his Royal Highness the Duke of Gloucester.

HE flatters himself that if his remarks should not be fortunate enough to interest as much as he could wish, they may however be the means of inducing some men of genius to visit that part of Germany, which is really worth the attention of the first naturalists in any nation.

THE author also may be thought by many to have been too luxuriant in his description of the mildness and humanity of the inhabitants of Tyrol; as likewise in his account of the fertility of their soil, their industry, hospitality, &c. It is however difficult for one who is naturally led to admire the society of virtuous men, in whatever state he finds them, to check the sentiments of happiness and admiration, which he experiences at the sight of man in his primitive state, untainted by vice.

THE author entreats the indulgence of his readers, if he should now and then overleap the bounds he has prescribed, and find himself enraptured at the sight of a cascade, or a mountain covered with snow, whose hoary summit loses itself in the clouds, or, perhaps, on the threshold of an humble cottage, while its poor, but honest, inhabitants, are cheerfully solacing themselves with their family, and recounting, after a hard day's labour, the fatigues they have undergone. The first instance presented to the author's imagination every thing majestic and sublime, and of course elevated his ideas. The latter naturally reminded him of the inhabitants of the High Alps, not far distant from mount Blanc, where he was born. For the author is well enough acquainted with English literature to apply to his country, and his countrymen in general, the striking lines which Goldsmith addressed to his brother:

"Where'er I roam, whatever realms to see,
 "My heart, untravell'd, fondly turns to thee:
 "Still to my COUNTRY turns, with ceaseless pain,
 "And drags, at each remove, a lengthening chain."

TRAVELLER, line 7.

ON the whole, if his remarks are so fortunate as to interest his readers, and they feel the same degree of pleasure at the recital of his observations, as he experienced in collecting them, and studying the laws, character, and manners of the inhabitants, he will be amply gratified in the success of his undertaking.

IN the Engravings prefixed to this work the author is indebted to Colonel Pleydel for three of the views taken by that gentleman, who has been so obliging as to allow him to copy them. The rest, with the Chart, &c. were drawn by himself on the spot.

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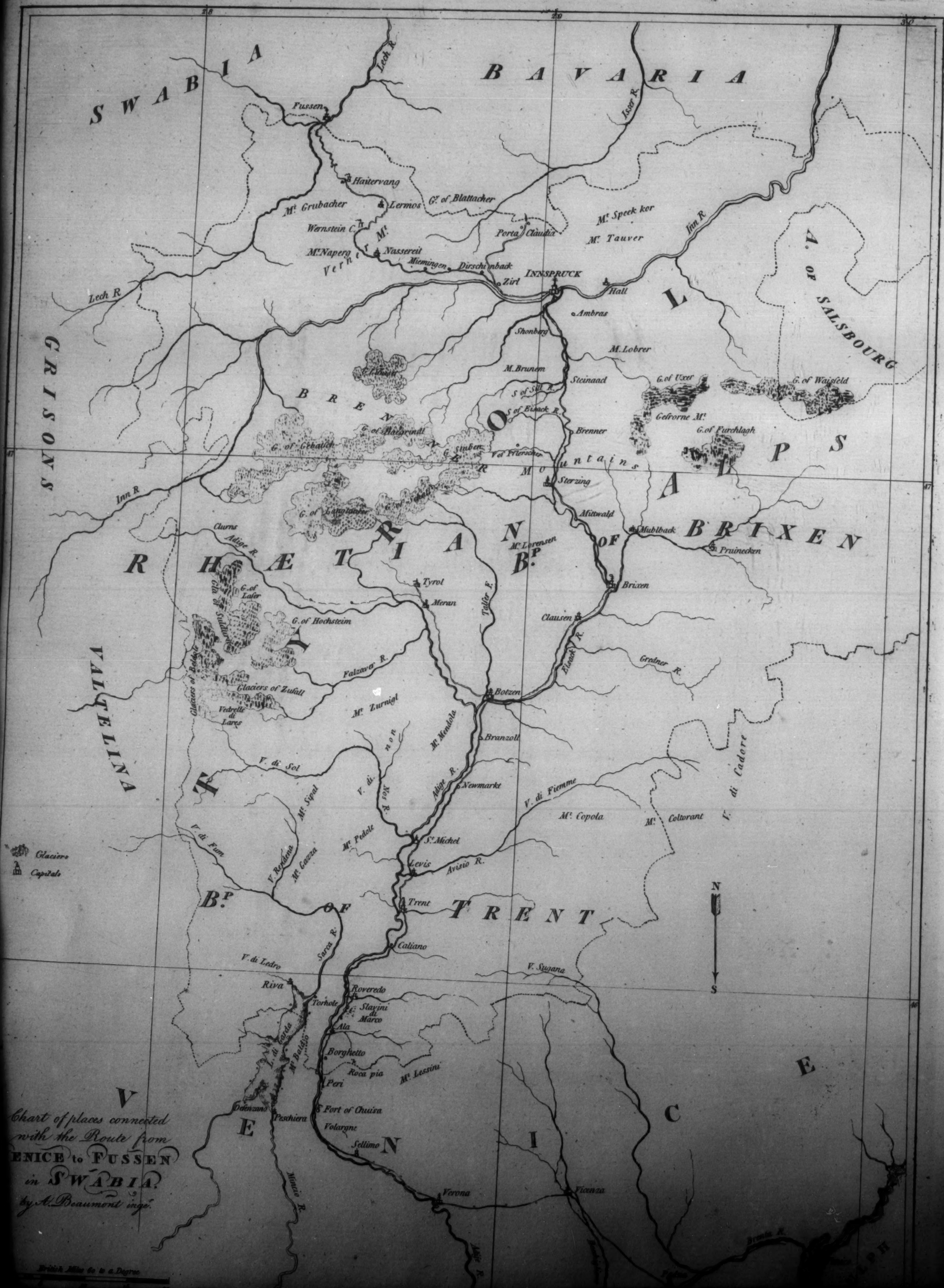
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TRAVELS
THROUGH
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&c. &c. &c.

SECTION I.

DEPARTURE FROM VENICE—GENERAL OBSERVATIONS ON ITS ORIGIN AND FORM
OF GOVERNMENT—VIEW OF THE HIGH CHAIN OF MOUNTAINS SITUATED
NORTH EAST OF THE GULF OF VENICE—ARRIVAL AT PADUA.

WE left Venice the 26th of May, one thousand seven hundred and eighty-six, soon after the celebration of the famous ceremony, in which the Doge annually espouses the sea, at two miles distance from the city, by casting into it a ring, with these words, "I ESPOUSE THEE IN TOKEN OF PERPETUAL DOMINION." This is a day which the Venetians set apart as one of their greatest festivals, since it commemorates that glorious epoch when this Republic proved victorious both by land and sea, and when most of the potentates of Europe were compelled to acknowledge her sovereignty of the seas.

THIS noble privilege was confirmed to them in the twelfth century by Pope Alexander the Third, who instituted this ceremony, which is still attended with all the splendour and magnificence imaginable.

I SHALL not dwell any longer on a ceremony that has already been so well described by various travellers, who have published their observations on the beauties and customs of Italy.

THIS city, according to its epithet, VENICE THE RICH, once surpassed in wealth all the cities of Europe, and must inevitably attract the attention of travellers; not only by its wonderful situation and ancient origin, but by the magnificence of its churches, palaces, &c.

VENICE appears, from the continent, rising majestically out of the sea, whose fury she seems to brave, as formerly her ancient inhabitants braved the fury of Atila, king of the Huns, and the tyranny of those barbarians, who at that time subdued all Italy: and it was entirely to the dread of falling into their power that Venice owed its liberty.

THE Germans, the Gauls, and the different nations of Italy, had felt the dreadful effects of the ferocity of those barbarians: even the great and famous city of Rome was besieged; when in the fifth century the people of Heneti, or Veneti, unable of themselves to resist the calamities that awaited them, forsook their peaceable habitations, and, as an asylum, retired to a cluster of small islands, situated at the extremity of the Gulf of Venice, in the middle of shallows. They immediately constructed a few huts, by way of a temporary residence; and, at last, after several fruitless efforts to return into their country, they there determined to fix their residence. On this spot is built the ancient city of Venice. Those families, however, whom the love of liberty had united, finding it would be impossible to contend against their enemies, who would in all probability soon pursue them; as also against the element that surrounded them, without the greatest unanimity and harmony among themselves, resolved on establishing some form of government—a striking instance of the necessity of enacting laws to maintain order in a rising state; which, without such support, would be in danger of falling into anarchy and confusion.

THE first form of government this people chose for themselves was a kind of democracy. Each of the small islands which composed this infant state, agreed to appoint a judge, or magistrate (by them called Tribune), who should administer justice in his department, where he was looked up to as chief, and elected annually. He was, however, compelled to give a proper account of his administration to the general assembly, before his successor could be appointed. (See the History of Venice by the Abbé L'Augier.)

THE whole country of Italy having been invaded by the Huns, the Vandals, the Herules, and the Ostrogoths, presented a pitiable and distressing scene: Venice, alone and unprotected, remained tranquil in the midst of all those storms, enjoying peaceably the happiness which she derived from her liberty, industry, and commerce; even giving protection to the miserable and wretched victims of tyranny, whose fortunes had fallen into the hands of their enemies.

THIS happiness and tranquillity were not of long duration; for the Republic, which was not only respected, but feared by the usurpers of the Gauls and the Italians, became an object of envy, and was attacked at the end of the fifth century by another horde of barbarians, full as ferocious as those I have already mentioned. They were inhabitants of the frozen regions of Scythia: who, having made themselves masters of Istria, Carinthia, and Dalmatia, not even satisfied with those conquests, determined on besieging Venice;

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but, presuming too much on their success, became negligent, and were defeated, though not without considerable loss to the Republic, whose watchful cares and expensive preparations had cost them immense sums.

THOSE barbarians, who were as bold as they were enterprising, were not intimidated by this repulse, but kept continually harassing them; and, by repeated attacks, obliged them to be incessantly on the watch. Thus terminated the first epoch of their tranquillity.

THESE, however, were not the greatest difficulties with which this rising state had to contend; for it was nourishing, unknowingly, within itself evils which proved in the end much more formidable. Finding an absolute necessity of encouraging trade, they were obliged to use every means that might attract strangers to settle among them. Unfortunately those emigrants, by introducing all kinds of luxury, ambition, and fraud, contaminated the manners of this happy but simple people; for, soon after, the office of *tribune* (or chief magistrate) could only be attained by the most fordid means.

DURING those cabals and intrigues, Venice was verging towards her ruin, which would in all probability have been soon completed, had not one virtuous man been found to stem the torrent. In the midst of a general assembly, which had met to deliberate on the alarming prospect of affairs, he dared to stand forward and propose to the Venetians to chuse from among themselves a person on whom they could depend for their chief, as the only method of re-establishing them in their former tranquillity.

THIS man, to whom they were indebted for their preservation, was the brave and virtuous Grado. His plan being adopted, Paul Luke Anafesta, citizen of Héraclée (a man universally esteemed), was elected in 697, and was the first who bore the title of DUKE, which was soon after changed to that of DOGE. Here ends their first form of government, which had existed two hundred years.

THE Venetians, under the new form of government (which was a kind of monarchy) resumed their former courage, that had lain dormant for a length of time, and no longer kept themselves on the defensive, but vigorously attacked their enemies, even in their own country, and returned victorious.

THE Lombards were amongst those who felt the effects of their valour: but then it was that the Venetians became cruel and vindictive, and that those who governed them frequently fell a sacrifice to their growing ambition—A melancholy picture of the frailty of human nature!

THE right of succession to the dignity of Doge was not made hereditary till the reign of the seventh Doge, which was in the eighth century, and lasted but a short time. Even during that period, the succession was not only contested, but divided between two families, each enjoying that dignity alternately, which nearly occasioned the

the overthrow of the Republic. Nevertheless Venice, which had at last by her prudence triumphed over the intrigues and ambition of the factions, was on the point of falling a victim to the anger of Pepin, son to Charlemagne, king of France.

THIS aspiring prince, desirous of rendering himself master of Dalmatia, used every effort to persuade the Venetians to assist him; but neither threats or entreaties could prevail on a people who were generally faithful to their allies, to engage in a war that appeared to them unjust. Their refusal enraged this ambitious monarch: he immediately commenced hostilities against them; and they would most probably have been great sufferers by this invasion, had it not been for the unskilfulness of his admirals, who, not being properly acquainted with the shallows, lagunes, &c. that nearly surround Venice, led the fleet incautiously where their ruin was inevitable.

THE troops of Pepin lost considerable numbers of their bravest warriors, and the remainder betook themselves to an ignominious flight.

HOWEVER, some time after this fortunate escape of the Venetians, it was concluded in a treaty made by Charlemagne in 802 with Nicephorus, Emperor of the East, that Venice should be considered as forming part of that empire. This favourable event restored to them the blessings of peace; a blessing of which they had long been deprived.

VENICE, notwithstanding all those checks, continued in an improving state; and, towards the eighth century, attracted the envy and attention of most of the sovereigns of Europe; not only by her power, but her riches. Happy result of indefatigable industry!

THEY were also greatly indebted to the Doge Participatio, who was happy in promoting every measure that could tend to the service of the Republic. To him it owes its greatest importance; for, under his propitious reign, which lasted eighteen years, the improvements were incredible. He joined, by several bridges, the cluster of small islands, to the number of sixty, that now forms the greatest part of the city of Venice, which is at present composed of one hundred and thirty-eight islands, though most of them are more indebted to art than nature. There are four hundred and fifty bridges, and the circumference of the town is nearly six English miles. Its population at the time of the Doge Participatio was about sixty-two thousand inhabitants, but it is now increased to two hundred thousand.

ALTHOUGH Venice had risen to such a state of importance, yet the Republic was frequently involved in oppressive wars, not only with the Narentians, the Dalmatians, and the Saracens, but also against the Hongres, or Hungarians, who likewise came from Scythia. Those people, who added ferocity to their courage, at first gained great advantages over the Venetians; but the latter, from their steadiness and well-directed manœuvres, at last regained what they had lost, by beating their enemies completely,

pletely, and obliging them to abandon the Gulf of Venice, and leave them undisputed possessors of the Adriatic sea.

THE Hungarians, finding themselves entirely defeated, retired and settled in Pannonia. In this situation, between alternate successes and losses, the Republic still extended her dominions, and kept within herself a fund of wealth, accumulated by trade and conquests. But alas! that wealth was partly the cause of her ruin; which must be the natural consequence in every state where opulence admits luxury, with all its dangerous attendants; for its inhabitants soon felt the fatal effects which arose from the causes beforementioned.

TOWARDS the twelfth century the government (which had, since the election of the Doge, been chiefly monarchical) was again changed; owing to a series of events, the enumeration of which would carry me too far. I shall only state that the Venetians, like many other nations, ascribing the misfortunes which had befallen the Republic to their chief, assaulted the Doge, and assassinated him in his palace.

MANY of the ambitious and intriguing citizens, taking advantage of the Interregnum, proposed a new form of government. There only remained of the former, a council, consisting of forty magistrates, called Quarantia, which had been established to judge all civil and criminal causes. This tribunal forms the basis of their present government, which is aristocratical.

THE council being assembled, it was decided that annually on Michaelmas Day, the city being divided into six districts, each of these districts should name two electors; and that the twelve together should be empowered to choose indiscriminately among the citizens four hundred and seventy members, which were to form the grand council.

THE council of Quarantia, however, not satisfied with the success of this first decision, determined that eleven commissioners should be appointed from among the most respectable persons of the state, to choose a Doge by ballot; and that the person who should have a majority of nine votes out of eleven should be elected. Thus were the people led blindly to acquiesce in the loss of their rights.

THEY again proceeded to a third decree, viz. That the grand council should nominate annually six counsellors, one out of each district, who were to form a privy council; and without whose advice the Doge could not give his assent to any act relating to the state. Here end the rights of the people and the power of the Doge!

THE *Senate*, or *Pregadi*, was afterwards formed, consisting of sixty members of the grand council, by whom all state affairs were transacted.

THIS new form of government terminated the troubles which at that time afflicted the Republic, and Venice rose again to her highest pinnacle of glory. It was then that her fleets and armies, victorious both by sea and land, entirely defeated those of the Emperor

Frederick the First, surnamed *Barbarossa*, who had boasted of the certainty of placing the Imperial arms on the gates of St. Mark.

THAT famous victory gave rise to the extraordinary ceremony of the espousals of the Doge with the Sea, which has been already mentioned.

THE apparent tranquillity which the Republic enjoyed was not so permanent as at first it promised to be; for the people began, although late, to find that their liberty had been sacrificed to the ambition of the Great.

THEY even made several attempts to overthrow the new form of government, but without success; for those who were in power used every art to render their schemes ineffectual. One of the most alarming conspiracies against the State, which occasioned the death of a vast number of citizens, headed by Bajamont Thiepolo, happened the 15th of June, 1310; and the Senate, in commemoration of its escape, instituted an annual festival.

THE danger to which the Republic had been exposed, determined the council of Quarantia to appoint a certain number of Judges, called Inquisitors of State; which soon after composed that formidable Council called *Di Dieci*, or TEN; a tribunal as powerful as it is now dreadful to the Venetians.

ANOTHER attempt against the Senate, which was as unsuccessful as that in 1310, took place the 15th of April, 1355, in which the Doge, being at the head of the Revolters, was soon after beheaded by a decree of the Senate.

I SHALL not expatiate on the disturbances that for some time afflicted the Republic; fearing that I have already, by this digression, fatigued my readers.

THOSE internal Commotions did not, however, prevent Venice from maintaining her prosperity and grandeur; for, towards the fourteenth century, the Venetians took the city of Padua from Francis the Second, Count of Carrare; causing him and his two sons to be ignominiously put to death in the prison of St. Mark: which was one of their first steps towards despotism; as they not only violated the rights of Sovereigns, but added cruelty to injustice.

IN the sixteenth century the power of the Republic had sufficiently increased to enable her to contend against the forces of Spain, France, Austria, and the Porte. It would probably have continued in this flourishing state, which was entirely owing to the prudence of the Senate and its profound policy, had it not been for the loss of the greatest part of their Trade; occasioned by the discovery, which the Portuguese had made, of the passage to the East Indies by the Cape of Good Hope. That loss was most forcibly felt by the Republic: for many of the Sovereigns of Europe, equally jealous of the advantages arising from such a discovery, immediately followed the example of the Portuguese, and of course lost the Venetians a source of treasure which was of the greatest importance to them.

I SHALL not enter on the various events and changes which have befallen the Republic, since the sixteenth century, as the whole is particularly described by L'Abbé St. Réal, in his History of Venice: I will only add, that the actual form of government has been subject to few changes, since the time beforementioned.

THE supreme authority, as the Doge is merely an empty title without any princely power, is vested in the hands of the nobles, to the number of nearly thirteen hundred, whose names are inscribed at their birth, in a book called the *Libro Doro*, in imitation of the Athenians: with this difference, that at Athens every citizen was obliged to inscribe the name of his children.

AT Venice the nobles may be divided into three distinct classes, the first is composed of families whom they call electoral, on account of their being the descendants of those who elected the first Doge in 697. They are looked upon as the most ancient in Europe, as Voltaire has justly observed.

THE second owe their origin to the families who afterwards formed the great council; and the third are the descendants of those citizens who, at the time that the State was in urgent distress, purchased their title of nobility for the sum of one hundred and twenty Venetian ducats.

THOSE different classes are not permitted to enter into the service of any foreign power, or allowed to receive from them any mark of distinction.

THE senate is at present composed of three hundred members of the great council, who consult upon the most secret and important affairs of the Republic.

IN the administration of government is included the college composed of the nine Procurators of St. Mark, the Doge's six counsellors, the censors, the judges of the council of Quarantia, and other magistrates for the administration of justice, &c.

NEXT to the senate, the tribunal of the greatest importance, is the college where audience is given to foreign ministers, and where all external affairs are transacted. It is composed of the Doge, his six counsellors, three senior judges of the council of Quarantia, and sixteen other magistrates or commissaries.

THE highest dignity, next to the Doge, is the Procurator of St. Mark: and the most formidable tribunal is the council of TEN; its power is very extensive. The three chief judges of that council (who are called Inquisitors of State) are chosen by election. They pay the greatest attention to maintaining order, and preventing cabals, &c. against the state. They also protect the citizens against the oppression of the nobles. Much more might be said on their form of government, which is greatly indebted for its permanency to the prudence of the Senate, and the rigor with which the council of TEN and the inquisitors enforce such punishments as they direct. But, since this abridgment is only intended to give the traveller an idea of the origin and constitution of that ancient Republic, it would be needless to enlarge on the subject.

THAT

I CANNOT, however, quit Venice without giving a sketch of the character of the most numerous part of its Inhabitants; who, though not ennobled by birth or purchase, have retained in their manners some remains of the warlike spirit and heroic deeds of their ancestors.

THEY may also be divided into three classes; the first (being the most opulent) comprehend the bankers and the merchants; the second, the mechanics; and the third, the gondoliers; who are by far the most numerous, and most deserving the attention of an inquisitive traveller; as they have in particular retained much of the ancient simplicity in their manners and customs.

THE name of gondolier is given at Venice to those who conduct in the channels or lagunes the gondolas, which are a kind of boat, ingeniously contrived, and very light: they may be hired by the hour or by the day, on reasonable terms.

THOSE people, owing to their extreme honesty, and entire attachment to the patricians, whom they serve, are treated by the State with great indulgence.

THEY are robust, and remarkably well made; and much admired for their agility and vivacity. They are not instructed; neither would the State wish to promote their improvement: but their natural gaiety, assisted by an excellent memory and quickness of repartee, renders their conversation interesting.

THEY are also the only class of people among the Italians who, like them, owe their origin to the Greeks, and have preserved some remains of that illustrious nation. Like them, they encourage the same degree of emulation by various feats of activity.

THEY have, on all public rejoicings what the English term a rowing match, by them called REGATTA. The principle characters of the Republic countenance this entertainment, by fixing the prize due to the conqueror; which, though trifling in itself, is more than sufficient to satisfy this honest class of people.

I MUST not pass unnoticed an amusement which they have among themselves, which is not only singular, but must naturally create astonishment to every stranger that visits Venice. They offer a reward to him who is capable of reciting the greatest number of verses from ARIOSTO or TASSO; and many, although they cannot read, are capable of singing most part of GERUSALEMME LIBERATA. It is when seated at the stern, and resting on their oars, the boat gliding gently on, that they make the palaces which border the lagunes resound with the harmonious verses of their HOMER.

I HAVE been led to say more on the origin and government of Venice than I should otherwise have done, had the situation of that city been as favourable for the observations of a Naturalist as others of which I shall have occasion to speak.

THE geologist will do well to examine the coast, from the mouth of the Po to the gulf of the TRIESTE, and he will find many objects worth his attention. He will also perceive that whole extent of that coast, and for five or six miles in the interior part
of

of the country, are encroachments made in the sea by a quantity of earth, pebbles, and gravel, which have been carried, in the course of several centuries, by the most considerable rivers of Italy, that discharge themselves in the gulf, and may in time fill up the lagunes.

ALL those rivers descend from the Alps, viz. Padus the Po, Athefis or Adige, Meduacus Major or Brenta, Meduacus Minor or Bacchiglione, Tiliaventum or Tajamento, Lignentia or Livenza, Silis or Sile, Anefus or Piave.

THOSE rivers, during the melting of the snow, carrying with them, as I have already observed, an immense quantity of earth, &c. from the primitive and secondary mountains, are forced to deposit that earth on the coast, on account of the resistance it meets with from the sea. They have also been, without doubt, the original cause of the land-bank that nearly separates Venice from the gulf, and which is called the Lido, about thirty-eight or forty miles in extent, resembling the string of a bent bow, supposing the latter to be the continent.

MANY Italian authors, and particularly Gianotti tells us, that formerly the city of Venice was ten miles from the continent; for Oriago, or Oralacus, which is now five miles from Lizza Fuffina, where they take boat for Venice, was at that time lying upon the shore of the lagune. And what confirmed me still more in his opinion, was some observations I was led to make on that spot.

HAVING a curiosity to ascertain the different strata of the earth, I was let down into a kind of well or pit which they were digging between Lizza Fuffina and Oriago: the entrance being wide, and the depth about twenty feet, I could with great ease make my observations, particularly as the earth in that place was cut perpendicularly under the stratum: I remarked that the strata inclined towards the sea (forming an angle of fifteen degrees and a half). I reckoned fifteen perfectly distinct, and was convinced that they were formed of the different decompositions of the primitive and secondary mountains, and that the sediments were not placed according to their gravity; for there were strata composed of small stones, called Gallet, mixed with pieces of granite, quartz, schist, and a peculiar kind of calcarious stone, which I shall speak of hereafter, forming a bed at two thirds of the height of the pit, thirteen inches in thickness, entirely supported by different strata of sand.

THE grain of one of them was particularly fine, mixed with particles of mica and granite, intermixed with maritime and fluviatic shells, which formed the seventh strata, and is a clear proof that the sea formerly overflowed that country: but as the vegetable earth was nearly eleven inches in thickness, we may naturally suppose that it has been in its present state for many centuries.

It is to be wished that such observations could be followed with some degree of
C accuracy,

accuracy, in several places round the coast, as it would certainly be of infinite service in the study of geology.

LIZZA FUSSINA is a small village, seated on the coast, near the mouth of the river Brenta, five miles from Venice. Although there are not many houses, and its situation is at the extremity of a plain leading towards Padua, it is nevertheless very interesting, having an extensive view of the high chain of mountains that nearly surround the Adriatic sea.

ON the north are situated the Rætian Alps, which lose themselves among the chain of mountains that cross the country of the Grisons.

OPPOSITE, and in a direct line, are those of Friuli, whose summits are always covered with snow: they join those of Carniola and Istria, which appear lost in the horizon.

THAT vast chain of mountains, which has near one hundred leagues in extent, is nevertheless but a small part of the Alps, and not much known by our Naturalists, although worthy of being investigated.

THE Mediterranean is well known to have but little flux and reflux; it is however felt in some degree at the extremity of the Gulf; since the tide frequently rises upwards of three feet; and those effects happen nearly at the same hour on the coast of Spain, in the Bay of Biscay, under the same latitude, though in a much higher degree.

THE Botanist will find, not only in the small islands which surround Venice, but also on the coast, and on the banks of the river Brenta, several beautiful and curious plants, which will merit a place in his Herbal: among others, according to Linnæus's system, "The Clematis Maritima, Antirrhinum Linifolium, Antirrhinum Purpureum, Xeranthemum Orientale, Salvia Sclarea, Rumex, Divaricatus, Sedum Anacampseros," &c. There are also on the coast several curious shells of the univalve and bivalve order.

WE left Lizza Fussina at noon, and were towed up the river Brenta to Padua, where we arrived in the evening.

THE banks of the river are beautiful, affording the most pleasing and interesting views: sometimes it is seen meandering across fertile and extensive meadows, enamelled with flowers, and covered with cattle. In other places it appears as lost, being concealed by tufts of trees, which cover it from side to side, forming a delightful harbour.

THERE are also several beautiful villas and rich farms, which give the traveller at first sight a favourable idea of the happiness of a people who live under a peaceable government, although unfortunately too jealous of its authority, acting frequently in a tyrannical manner to those who dare divulge too freely their sentiments on the Constitution of the Republic.

SECTION II.

OBSERVATIONS ON PADUA, AS ALSO ON ITS ORIGIN, ITS FORM OF GOVERNMENT, AND THE MANNERS OF THE INHABITANTS — DEPARTURE FROM THAT CITY, WITH SOME REMARKS ON THE NATURAL HISTORY OF THE DIFFERENT PLACES SITUATED BETWEEN PADUA AND VERONA — DESCRIPTION OF VERONA.

THE charming and fertile meadows that are watered by the Brenta (which I have already mentioned in Sect. I.) are but a small part of the immense plain which forms the province of Padua. It is bounded on the south by the Euganian hills, and on the north by the low chain of the Trevesian mountains.

THESE last, viewed from the environs of Padua, appear as if placed artfully by nature, in order to relieve the eye from a continual scene of the frozen summits of the Tridentinæ Alps, always covered with snow. The effect is wonderfully pleasing; for the Trevesian mountains being not only cultivated, but wooded to the top, conceal by those means the base of the retiring mountains, and throw that equivocal veil over them in which the eye so much delights; forming a contrast so harmoniously blended, that, on a fine summer's day, it exhibits one of the most beautiful and picturesque landscapes imaginable.

NATURE seems to have been particularly propitious to the inhabitants of this country, in enriching their soil, and furnishing them with every means of becoming respectable by their industry and commerce.

SEVERAL large and navigable rivers cross this province, as it were to invite its inhabitants to imitate other opulent nations, in taking advantage of their desirable and enviable situation, to export into foreign countries the produce of their industry, and the superfluities of their home consumption. But alas! the natural indolence of the people, and their want of energy, which are but too much countenanced by the carelessness and inattention of government, naturally prevent them from reaping those advantages which would inevitably arise from their beautiful situation.

I WOULD not wish to be understood that the soil does not already produce vast quantities of grain, silk, &c.; but that produce would be infinitely increased were the erection of manufactories more encouraged; for at present there are but few, although the country is capable of admitting a vast number.

IF government would but diminish that great disparity which exists between the nobles and the citizens, and at the same time encourage trade, reward industry, and distinguish merit, it would soon be perceived that the provinces of Padua, Vicenza, and Verona, would no longer contain the number of vagrants and worthless beings that continually infest every corner of those cities, and which, of course, is the cause of such frequent assassinations.

I MUST, however, do justice to the government of Venice, and acknowledge, that, within these few years, the prosperity and happiness of the people have been more attended to, and the inhabitants less oppressed by immoderate taxes.

THE nobles also treat their vassals with greater lenity and indulgence than formerly; and they begin to be convinced that virtuous and industrious subjects tend more towards the prosperity of a state, than the accumulated treasures of St. Mark, or even whole armies formed of servile and debilitated slaves.

THAT the wealth and prosperity of a state naturally increase, in proportion as the poverty and indolence of each individual diminish, is, at present, I believe, a truth universally acknowledged.

WINCKELMAN, in his *Histoire de l'Art chez les Anciens*, chap. i. sect. iii. after having demonstrated that different climates influence the texture and features of the human body, adds, that "they also affect their morals and their natural genius; which, of course, must have the same effect on their activity and industry." He has justly observed, that "those two last qualities, as well as their customs and manners, depend in a great measure on the form of government under which they live."

I AM, therefore, not fearful of asserting, that this people, as well as most of the inhabitants of Italy, who have so great a share of natural genius, and in general so little erudition, so much good-humour and hospitality, and are at the same time so choleric and vindictive, are capable, by proper management, of equalling, or probably surpassing, many of the European nations, were their form of government better adapted to their natural character.

IF those who are at the head of the different States of which Italy is composed, would but correct the numberless errors and abuses which have crept into their different forms of government, and enforce the laws which are established for punishing the guilty, without distinction; as also by abolishing those asylums that serve as a kind of support to the frequent acts of cruelty and murder which are so common in many parts of Italy; were they to encourage merit by some mark of distinction, and reward the individual who might be induced to propose any plan which would be of service to the State; or erect manufactories to keep the lower class of people continually employed;

employed; then might we hope to see those different States occupy that rank which nature seems to have allotted for them among the different powers of Europe.

I MUST, however, allow that some of those Sovereigns have already begun to contribute considerably to the welfare of their subjects, by their new and judicious regulations, in the administration of justice, by the desire of having their people properly instructed, and by offering every encouragement to merit and industry.

HIS Sardinian Majesty and the grand Duke of Tuscany are convincing proofs of this assertion: and it were greatly to be wished that their examples were followed by the rest of the Italian Princes.

THE city of Padua, or Patavium, is of great antiquity, as it can boast of being prior to Rome, whom she frequently assisted in the wars which that Republic had against the Boii, the Senones, and the Cenomani.

MANY historians, and among others Livy, who was born in that city, affirm that it was founded by Antenor, a Trojan Prince, after the destruction of Troy, four hundred and thirty-nine years before the city of Rome; which is also confirmed by Martial, when he addresses himself to Valerius Flaccus, a poet, and native of Padua, in these words, "*Antenorei spes & alumne laris*".... But nothing can be more erroneous than that assertion, since there is every reason to believe that it was founded by a King of Veneti, named Patavinus, as I am going to relate.

WHEN the Illyrean colonies, which may be divided into three different bodies, viz. the Lyburnians, the Syculians, and the Heneti or Veneti, fled from Greece to establish themselves in Italy; the Lyburnians were the first who (as many authors report) entered the country of Carniola, and Friuli; but, being repulsed by the Eugonians, they sheltered themselves in that part of Italy which was afterwards called Magna Græcia, and which now forms the kingdom of Naples, &c.

THE second body, which were the Syculians, inhabitants of the frontiers of Dalmatia, entered Italy after the Lyburnians, and settled in that part which at present forms the Pope's dominions; and whose people were known by the name of Oepiqui, who composed the league of the Sabins, the Latins, the Ænstrians, and the Samnites.

THE third body, which were the Veneti, established themselves to the north of the Po, and, for a length of time, formed a separate nation. They had several wars to sustain against the Cisalpine Gauls; and there appears not the least doubt but that Padua owes its foundation to one of their Kings, as I have already mentioned.

THE splendor of that city was diminished in some degree when Rome was at the height of her glory; but the decline of that ancient and noble Republic carrying with it nearly the destruction of all the cities of Italy, Padua of course shared the common fate.

THAT city, after having borne its share in the devastations made by the Huns and Lombards, who overwhelmed that beautiful country, obtained its liberty under the

Emperor Otho the First, and was then governed for some time by its own magistrates, who afterwards bore the title of Doge or Poteſta, till the reign of Ezzelinus the tyrant, who lived in the thirteenth century. He was a native of the Treveſian March, and of German origin; but of a character ſo cruel and ferocious, that he was no ſooner appointed Poteſta than he became a tyrant, and thousands of the inhabitants fell wretched victims to his fanguinary temper, which he carried to ſuch a pitch, that Pope Alexander the Fourth was under the neceſſity of declaring a cruſade againſt him; and, ſoon after, he was taken priſoner before the city of Milan, which he was on the point of beſieging, and carried to Socino, where he died frantic in the year 1259. (See the Life of Ezzelinus by Le Père Gérard.)

AFTER the death of the tyrant, the Republic of Padua was ſtill conſiderable, having under its juriſdiction the cities of Vicenza, Verona, Trent, Treviſo, Feltre, Belluno, Baſſano, and the greateſt part of the country of Friuli, &c.: but, not many years after, it fell a ſacrifice to the intrigues of the Carrareſi family, which came from Baſſano; who, gaining ſufficient aſcendency over the minds of the people, cauſed one of the Princes of their houſe to be appointed Captain in Chief, which was at that time the firſt dignity of the State, and which ſoon became hereditary.

THEY were then governed monarchically, till the time of Francis the Second, who was taken by the Venetians (as mentioned in Sect. I.); ſo that in 1405 the Republic fell under the Venetian juriſdiction; and the mother country became the property of one of her colonies, who, by way of ſecuring it, behaved with the greateſt injuſtice, in exterminating ignominiouſly the remains of that family.

PADUA is at preſent ſo much declined from its former ſtate, that it has ſcarcely preſerved any remains of its paſt grandeur, affording a ſcene of poverty, pride, and ſuperſtition.

THERE are ſtill exiſting ſome beautiful buildings, fine churches, &c. But the enlightened traveller will not ſurely permit himſelf to judge of the richneſs of a State, or the happineſs of a people, by ſuch ſtately monuments.

THIS great city, which formerly contained two hundred thouſand inhabitants, can hardly boaſt at preſent forty thouſand, although its ſoil is reckoned one of the moſt healthy and fertile in all Italy; and its ſituation is ſo well calculated for commerce, being watered by the rivers Brenta and Bacchiglione, which are both navigable.

PADUA, in its former ſtate, was well fortified. It is ſtill ſurrounded by two walls; the firſt is called, to this day, Antenor's Wall; and the outward (comprehending its fortifications, ditches, &c.) was built by the Venetians at the time of the league of Cambray.

WHAT renders this city moſt famous, as alſo worthy the attention of a traveller, is its Univerſity; which, for many centuries, was held in the higheſt repute.

THIS Univerſity has been conſidered as one of the moſt ancient in Europe, ſince it was founded in the twelfth century; but it is indebted to Frederick the Second for the
greateſt

greatest part of its improvements. It was also esteemed one of the best; for in their records are mentioned at one time upwards of ten thousand students, although at present there are scarcely nine hundred.

THE same number of professors are kept as at its first institution, which are sixty, and most of them men of the greatest erudition; therefore its decline must not be attributed to them, but rather to the weakness of those that are at the head of the police, as they indulge the students in the most unbridled licentiousness, which is carried to such a pitch of insolence that no person, whether inhabitant or stranger, can with safety venture out after dusk.

THE Botanical Garden belonging to the university has few equals: its arrangement is very elegant, containing a most valuable collection of exotic and indigenous plants. It was planted by Francisco Bonaefidei, who died in 1658, and was the first professor of botany at Padua.

THERE is also a Cabinet of Natural History well worth seeing, being uncommonly rich in shells, fossils, minerals, &c.

ITS Library is also considerable. The books are well chosen, and most of them curious. Its Anatomical Theatre contains every thing that is necessary for the demonstrative part of that study. There is also an Experimental Hall supplied with every kind of apparatus or necessary instruments for students.

ALTHOUGH this work is not intended to give an exact and minute description of the various buildings and public edifices, yet I cannot pass unnoticed the *Palazzo della Ragione*, or Town Hall of Padua, where the courts of justice are kept: it is built on the spot where formerly the ancient Senate stood. Its architecture is simple, but noble and majestic. The great Hall is nearly 332 feet long, 116 broad, and 109 in height. It is ornamented by ninety columns, which are placed between the windows, and support the roof. It also contains some excellent paintings and curious monuments; among others is a monument erected to the memory of Livy the historian, with an inscription which was found in the ruins where the Temple of Concord formerly stood:

V. F. (*)
TITUS LIVIUS
LIVIAE T. F.
QUARTIAE L.
HALYS
CONCORDIALIS
PATAVI
SIBI & SUIS
OMNIBUS.

(*) Vivens Fecit.

ABOVE

ABOVE the inscription is placed a bust, supposed to be that of Livy. There is also in the Hall of the Council House a monument and inscription, with a bust of the Marchioness of Obizzi, which does infinite honour to the Paduans: I shall not transcribe the inscription, as it would carry me beyond the plan of this work; but the cause must not be omitted, as it is erected to the memory of one who was not only as virtuous as Lucretia, but had as great a share of fortitude, since she chose rather to be stabbed by her ravisher, who, in the absence of her husband, had found means to get admittance into her chamber, than yield to his desires.

THE villain eluded, for some time, the hand of justice; but was at last taken, and confined in prison for fifteen years, where he was made to suffer extreme torture, but to no purpose; for he never would confess his guilt. Being at last set at liberty, he was soon after shot through the head by the Marchioness's son, who immediately afterwards entered into the Emperor's service, where he served at the beginning of this century.

THE people who can erect a monument in honour of so much virtue, and strew its remains with flowers, surely merit the esteem of virtuous men, and the notice of a sentimental traveller.

THERE are still, at Padua, a vast number of curious inscriptions; one in particular, inscribed on a small monument or pillar, in honour of Antenor, and placed at the entrance of St. Lawrence's Street, in these words:

" C. Inclytus. Antenor. patriam vox nisa quietem,

" Transtulit huc Enetum Dardanidumque fugas.

" Expulit Euganeos, Patavinam condidit Urbem

" Quem tenet hic humili, marmore cesa domus."

THERE are also many remains of antiquity, although the misfortunes which have afflicted this city, have scarcely left any thing but ruins of the ancient monuments; for the Amphitheatre, which, according to appearances, ought to be larger than that at Verona, is nothing but a heap of stones! dismal vestiges of past magnificence!

THE Geologist and Naturalist desirous of improvement, must not quit Padua, without making an excursion to the south of that city, and visiting the villages of Abano, or Aponum, Catajo, Bataglia, and Arquà, or Arquato, as they contain objects worthy of the greatest attention. Those villages are situated at the foot of the Euganean hills, and nearly south-west of Padua.

ABANO, which is only five miles from that city, is certainly the same place which Pliny names Fontes Patavini; as there are in its neighbourhood several hot springs,

or

or baths, of different qualities, the major part of them being fulphurated, and resorted to for various complaints. The heat of some of those springs is so great that Fahrenheit's thermometer rose in general to 110 degrees.

THEY emit a disagreeable smell, something like a solution of liver of sulphur. One of them is lukewarm, and is said to be impregnated with lead. The water is thick, of a milky colour, and the sediment effervesces with acids. There are others similar to this, although not quite so hot as the first, from which the water issues in such quantities as to drive a mill at the distance of twenty paces from the source, and yet continues hot, forming sediments and calcareous incrustations, or rather a kind of marble which effervesces with acids; I also found there several metallic guhrs.

THOSE various springs flow through beds or strata of stone, of which those hills are composed, being a kind of *lapis molaris*. Those strata are mostly parallel, inclining towards the south, nearly fifteen degrees and a half; but extremely porous, and of a greyish colour, except in some places where they are yellow, inclining to red; but I convinced myself that the colour was merely superficial, and did not penetrate more than two inches in the interior of the stone, which was owing to small streams of ferruginous vitriolic water, which filter through its pores. When first I had the curiosity to visit those hills, not meeting with any basalt, or the least production which could lead me to suppose that they had been formed by volcanic productions, I attributed the heat of those waters simply to the decompositions of some pyrites, occasioned by the moisture which must naturally filter abundantly through the pores of the *lapis molaris*. Not being however thoroughly satisfied, and having soon after an opportunity of renewing my observations with greater accuracy, I continued my researches on the same chain of hills in the neighbourhood of Vicenza; and was then satisfied that the country had formerly contained volcanos, as most of the summits of those hills were formed of volcanic productions; for in several places I found strata of lava apparently wide, and one foot and a half in thickness; as also pieces of basalt, pumice stone, &c.

THE village of Catajo is only five Italian miles from Abano, and will not only furnish amusement to the Naturalist, but to all admirers of painting, as they will be amply gratified by visiting a magnificent palace called *Inganno*, and built by Delfini, belonging to one of the descendants of the Obizzi family; the remarkable actions of which are painted in fresco by the celebrated Paul Veronese.

ABOUT five miles from Catajo lies Arquà, or Arquato, famous for having been the residence and burial place of Petrarch.

THE house, in which Petrarch lived with his beloved Laura, stands on a hill a little way from Arquato.

THE memory of that poet is preserved in several of the apartments by allegorical paintings; and some pieces of his furniture still remain in the house.

I SHOULD have much more to add, were I to mention the variety of objects which would naturally engage the attention of the Botanist and Lithologist; but, owing to the very short stay I made in that part of the country, I was prevented from noticing what might be most worthy their remarks. I am, therefore, under the necessity of confining within bounds the desire I have of being useful, by merely recommending to them not to pass unnoticed a spot which will furnish them with a variety of curiosities deserving their inspection.

FROM Padua we continued our journey to Vicenza, which is also the road to Tyrol; but not till after we had viewed what was most curious in that city.

VICENZA is distant from Padua nearly eighteen Italian miles: the road being flat, the journey would be uninteresting, were it not that the adjacent country is remarkably rich, and covered with all kinds of trees; but more particularly the mulberry-tree. Many of the inhabitants live chiefly by the culture of silk worms; as also by winding, twisting, and dying silks.

VICENZA is seated on the river Bacchiglione, which is navigable; and, immediately on crossing it, one enters a large plain (though rather less than the one that leads to Padua), in the middle of which is situated Vicenza.

THIS plain is terminated by a continuation of the Euganean hills, which are bounded towards the north-east by the commencement of the Trentinæ Alps.

THIS spot is one of the most fertile and interesting imaginable, being watered by several rivers, which descending from the mountains that surround it, assist in fertilizing the country, by the decompositions which they continually carry with them, and which serve as most excellent manure; so that with great truth it may be styled the garden of Europe. It is also embellished by a variety of villas belonging to people of distinction, ornamented by the incomparable Palladio. Superb columns of white marble, crowned with pediments, and enriched with basso-relievos, shew themselves as it were by stealth through the tufts of trees; and, from the contrast of colour, appear still whiter than they naturally are: this, added to their reflection in the limpid stream, not only increases the pleasure, but excites the admiration of the traveller.

THE city of Vicenza is the capital of the province of Vicentino, and, for a length of time, formed a separate government. They had also their sovereigns and their tyrants, till they were forced to seek the protection of the Republic of Padua: and, at the time of the decline of that city, they gave themselves voluntarily to the Venetians, which

is the reason they enjoy greater privileges than any of the neighbouring cities, and are of course the richest in the State next to the Republic.

THEY appoint their own magistrates for the maintenance of order and a well regulated police. This city is not so large as Padua; it is badly fortified, but more populous, containing nearly forty-five thousand inhabitants.

THE public buildings are superb, the architecture of which retains all the simplicity and elegance of the times of Augustus. In fact, they were built after the designs of the great Palladio, who was a native of Vicenza.

THEY have also an Academy called the Olympic, or Olympici, where the academicians assemble in the theatre built by the famous architect abovementioned, which is so universally admired by all travellers. The principal object of this Academy is to fix the standard of the Italian language, by promoting the knowledge of its beauty and elegance.

THE Euganian hills are here only five or six Italian miles from Vicenza, and they now become much more interesting to the Naturalist than in the vicinity of Abano; for, in many places, they contain a mixture of various sorts of maritime bodies, besides petrifications, &c.

MONTÉ SUMMANO also merits the attention of the traveller, there being many curious plants and medals found on it, besides several other relics of antiquity. It is the received opinion, that formerly on that mount there was a temple dedicated to Pluto.

IT appeared to me that the mountain owed its formation to some subterraneous revolution, as I found a vast quantity of volcanic productions.

THE famous cave of Custoza must not be passed over: it is nearly four thousand feet long, three thousand broad, and almost three miles in circumference, according to my own observations, and the information I gained on the spot.

THE roof of this immense cave is supported by one thousand huge pillars, cut out of the quarry, of three perches square. Many wonderful and astonishing stories are told of this cavern; but it is only the remains of a quarry left from the digging of stone, since the ancient buildings of Padua and Vicenza are apparently built of the same stone, which seemed to be a sort of *cos* lying in parallel strata, resembling what Monsieur de Bomar calls *cos ædificialis*: nevertheless, I would not absolutely affirm it, not having stayed as long as I could wish in this subterraneous abode; being under the necessity of continuing my journey. It is, however, a spot worth the attention of a Lithologist.

FROM Vicenza we went to Verona, which is thirty miles distant from that city. The road is beautiful, nearly resembling that from Padua to Vicenza; but, as one approaches Verona, the face of nature seems to wear a different aspect; the adjacent country is
much

much more rural; the hills become mountains; the inhabitants, of course, influenced by the situation, appear in a more natural state, and are consequently better and happier. This change increases as one approaches the romantic valleys of Policella, Paltena, and Chiampo.

THE provinces of Padua and Verona made formerly part of the kingdom of Lombardy. The city of Verona, which is seated on the river Adige, or Athefis, is very ancient, since it is said to have been built by the Euganei and Rhæti, and to have been afterwards one of the twelve cities which the Etrurians possessed beyond the Apennines, till they were driven from thence by the Cenomani. It is badly built, and its population does not exceed fifty thousand inhabitants. The situation is particularly pleasant, in the midst of a charming plain, and watered by the Adige, which divides the city nearly in two equal parts. One may take water at Verona for Venice in boats or barges, rendered convenient for that purpose, and where one meets with every necessary accommodation for so short a voyage, which is generally accomplished in three days. From its vicinity to the mountains, being nearly at the foot of the Alps, the air is both serene and healthy.

ALTHOUGH the greatest part of this province is not only mountainous, but filled with romantic and extensive valleys; yet the soil is particularly rich, and well cultivated; for it amply furnishes the inhabitants with every luxury as well as necessary production.

I SHALL not dwell on the origin of the city of Verona, only observing, that after many changes of government, it was forced, in imitation of Padua and Vicenza to submit to the Venetians, and I shall content myself with adding, that both arts and sciences flourished in that city long before the decline of the Roman Empire; since Pliny the Elder, a native of Verona, lived in the time of Augustus, fifty-five years before Christ. That city, as well as Padua and Vicenza, formed in the ninth century distinct Republics, which were frequently at variance with each other, and engaged in continual contentions. Their government was at first democratical, but, soon after, became monarchical, through the ambition of several individuals.

VERONA, as well as those cities, during their democracy, appointed a Potesta, whose authority was to last a limited time. (See the work of John Villani, entitled *Chronique des différens Peuples du Monde*.) This writer asserts, that "the change of government was owing to Mastin Escalius, who being elected in the thirteenth century Potesta to the Republic, gained sufficient influence to add the title of Perpetual Captain, which privilege remained in his family till the fifteenth century, when the descendants of this new Sovereign, taking advantage of their power and authority, became so many petty tyrants, as cruel and blood-thirsty as

"Ezzelinus

"Ezzelinus could possibly be at Padua: but Mastin the Third, adding every species of cruelty to his tyrannic disposition, obliged the Veronese and the Vicentini to throw off the yoke, and seek the protection of the Venetians, who have always treated them with the greatest lenity."

THE government of Verona is administered by a Potesta, or Major, and a Capitaneo: the first for civil, and the second for military affairs. They are both sent by the Venetians.

THE city of Verona was formerly well fortified; and it was one of the first in Italy which made use of bastions, although they, as well as their curtains and ravelins, are at present in a ruinous condition.

It is guarded by two forts; the one called St. Pietro, and the other St. Felice, which are also nearly in ruins. The first, which is situated on much higher ground than St. Felice, commands an extensive view of the adjacent country, the course of the Adige, and the Tridentine Alps.

FEW cities of Italy, except Rome and Naples, contain a greater variety of antiquities than Verona. At the foot of the castle of St. Pietro are the ruins of three triumphal arches, which are not so much effaced but that one may perfectly perceive their different orders. The first I took to be Corinthian, the second Composite, and the third Tuscan. They were all three built by Vitruvius. There is a third castle called Castello Vecchio, situated on the banks of the Adige.

THE Museum contains many remains of antiquity, military pillars, mausoleums, and tripi, with several curious inscriptions in various languages, Oriental, Greek, Latin, Etruscan, and others. They are indebted to the celebrated Marquis of Maffei for his liberality in enlarging this valuable collection, as also for the care and attention with which it is preserved.

AT no great distance from St. Maria Antica, which is an ancient church, are some Gothic mausoleums erected for the family of Escalius, who was their first Potesta; but not for Scaliger, as some writers have asserted, who was an historian in the reign of Francis the First, 1528. In the letters of naturalization, which were granted him by that Prince, there is not the least mention of his being a descendant of the family of Escalius, which would not certainly have been omitted, could he have made any pretensions to it.

THE Palazzo della Ragione, or Town Hall, is a handsome building; but not so large as that of Padua.

THERE are five marble statues erected in honour of five of their wise men, natives of Verona, viz. the poets Catullus and Æmilius Macrus, the historians

Cornelius Nepos and Pliny the Elder, with the architect Vitruvius; although many affirm that Vitruvius was a native of Formia, at present known by the name of Môle de Gaetta. One might also add a sixth statue, placed under a kind of niche, in honour of Jeremo Fracastorius.

VERONA may boast of having given birth to a vast number of men of science, &c.; among others to Joannes Jocundus, the celebrated mathematician, to whom we are indebted for the best translation of Euclid: Guarini, who was the first after the decline of the Roman empire that re-established the beauties of the Greek and Latin languages in Europe; and who is so well known to the Literati, by his *Compendium Grammaticæ Græcæ*, &c.: Paul Veronese, the celebrated painter, whose pencil has served to immortalize his name to posterity; with many others too numerous to insert. (See the excellent work of Maffei, a native of that city, intitled *Verona Illustrata*, vol. ii. p. 178.)

THE city of Verona has lost much of its original magnificence by disturbances from its neighbours, and the reiterated oppression of its chiefs; yet the Belles Lettres and the Arts have not been entirely impeded; for from that period, to the present era, there has always existed in that city a number of men of letters.

THERE is also a beautiful Academy called *Philharmonici*, where the Literati meet to discuss various subjects.

THAT society is very ancient, as it existed before the year 1543; as did also another for the encouragement of Arts and Sciences, called *Incantati*. The members of this society also join the others, in order to read lectures, &c. as I have already mentioned. There is also a third society, which bears the name of *Philoti*. The place where they assemble is a kind of Gymnasium, where the youths of Verona practise several bodily exercises; such as wrestling, fencing, dancing, horsemanship, &c.

I MUST not however quit this city without noticing its Amphitheatre, which is a noble structure, well worth a curious traveller's observation, being a beautiful piece of antiquity. It is both stately and spacious; of the outward wall is left only a small piece, from whence one may make an estimate of the whole. The remainder of the building is kept in good repair, owing to the attention of the inhabitants; which certainly does them great credit, as they are frequently obliged to have much done to it. Some authors assert, that it was built in the reign of Augustus, which does not appear probable, since Pliny the Elder lived at that time, and does not mention it when he speaks of his country: neither does the Younger Pliny, who lived under Vespasian. It is not likely that either of them would have omitted it, having both been so very particular in their description of Verona: I should therefore suppose it to be of a later date than the Coliseo of Rome, built by Titus. The form of the Amphitheatre is oval: its great diameter

450 feet:

450 feet: the small one 360, and its circumference 1290. The great diameter of the Arena is 223 feet, and the small one 136 feet and a half. It is surrounded by forty-four stone benches, raised one above another in the nature of steps, of one foot and a half in height, and twenty inches in breadth, capable of containing twenty-two thousand one hundred and eighty-four persons. Those measures may be depended on, as I have taken them on the spot.

I WILL now speak of the environs of Verona:—The Adige, which fertilizes that beautiful country, and offers to its inhabitants every means of opulence and comfort, did not originally pass through Verona; but it is difficult to ascertain whether the change was accidental or contrived by way of embellishing the city. It is however certain that, at no great distance from it, there is a large deep ditch which appears to have been the original bed of the river, as the bottom is flat, and covered with thick sand, intermixed with round thin stones, called *gallet*, and large pieces of granite, quartz, &c. which are decompositions of the primitive mountains. There are few countries so rich in fossils as the province of Verona; and most Naturalists know that it abounds with all sorts of petrifications, shells, &c. unknown in the European seas: I shall therefore not pretend to enlarge on that subject, as it would only be a repetition of what has already been mentioned by a variety of writers.

I WILL only add that the marbles are beautiful, and have the finest polish; and among them is what the Italians call *Mischio di brentonico*, *le Giallo di Torri*, besides another species which nearly resembles the *Verde Antica*, &c.

THERE is also, in the vicinity of Verona, a kind of clayey earth, of a greenish colour, called *Terra Viridis Veronenfis*, which is made use of by the artists in painting *al fresco*. It is found in strata nearly parallel, of four inches in thickness. This earth, which is pure ochre, contains small particles of copper.

BEING rather straitened for time, I could only judge from the specimens I had seen that the spot contained objects worthy the observations of the mineralogist.

I PURCHASED of two workmen that were there a couple of ætites, or eagle stones, of a deep red, three inches in diameter, and containing in the interior some grains of pure iron. They assured me that they had found them nearly where they were at work. They also gave me a variety of fossils, which I have still by me.

THERE are in the province of Verona a number of curious plants, not only in the vallies, but on the adjacent mountains, viz. *La Veronica Petrea*, *La Veronica Fuchsis*, *De Giovanni Pona*, *La Sefeli Frutescens*, *Erythronium Dens Canis*, *Cistus Italicus*, *Orobis Luteus*, *Le Polemonium Rubrum*, *L'Hyacentus Comosus*, *Sinenaria Helenitus*, *Hippocrepis Commosa*, *Gentiana Acolis*, *Centaurea Minore*, *de Dioscoride*.

(See

(See the Description of Monte Baldo by Giovanni Pona, a very scarce and valuable book.)

THE Naturalist will find infinite satisfaction in rambling over those mountains and vallies in search of objects well worth his attention; but if he should be stopped in his career by a storm, which is frequent in that country, let him not fear to seek the asylum of the humble and rustic cottager, as he will find that honest class of people possessing as great a share of urbanity, gaiety, and hospitality, as the inhabitants of the vallies of Switzerland and Savoy.



SECTION III.

DEPARTURE FROM VERONA—BARRIER OF THE COUNTY OF TYROL, NEAR ROCCA

PIA—DESCRIPTION OF THE VALLEY OF TRENT AND MOUNT

BALDO—ARRIVAL AT TRENT.

HAVING lengthened my stay at Verona as long as it was in my power, I quitted it, perfectly satisfied with what I had seen; though fully convinced that the charming spot required not only more time properly to investigate its beauties, but also the observations of a Naturalist more versed in the study of the three kingdoms of nature. After crossing the river Adige, or Athesis, near the gates of Verona, I pursued my route northward, leaving on the right the road to Vicenza, and on the left that to Lombardy. The valley, which one enters directly on passing the river, is almost every where a level, except a few high grounds scattered here and there, which seem to announce the approach of the Tridentine Alps. The road continues much the same till one gets near the village of Sellimo, where the valley becomes contracted, and offers to the eye several romantic and picturesque scenes.

HAVING left the city of Verona at a very early hour, the sun had scarcely tinged with his golden beams the summits of the mounts Baldo and Lessini; the valley, which separated them, enjoying all the freshness and beauty of a fine spring morning. In crossing it I felt that charming, undefinable calm, which so frequently precedes the appearance of that grand luminary who cheers and enlivens every object. Sometimes I proceeded through beautiful meadows, enamelled with flowers; which, being still covered with dew, greatly added to the beauty of the scene, as the reflection of the sun-beams, darting through the craggy openings of the elevated mountains on the right, made them appear like brilliants of variegated colours. At other times I passed through extensive corn-fields, where the golden ears, gently agitated by the morning zephyr, seemed to invite the hand of the reaper, in order to reward him tenfold for his past trouble and fatigue.

THIS enchanting scene received an additional charm from the melody of the aerial songsters, straining their little throats, as if to vie with each other, in their homage of thanksgiving to the visible Author of Life and Vegetation.

THE Adige also, joining its gentle murmurs to their charming strains, meandered calmly through tufts of olive-trees and poplars, quitting with seeming regret this delightful spot.

FULL of admiration at the beauties with which I had been surrounded, I found myself as it were, imperceptibly, in the midst of the first chain of the Tridentine Alps. When arrived at the important fort of Chiufa, the scene changed totally, and beauties of a different nature presented themselves to the eye: for, instead of rich and fertile meadows, intermixed with charming and extensive forests of olive-trees, &c. huge and tremendous rocks seem to surround one.

THEIR summits were covered with firs, losing themselves in the clouds, and spreading their dark mantle athwart the view, whilst their base, composed of enormous masses of stone, hung shelving over the road, which is dug out of the steep side of the rock.

ON the other side is a precipice, at the bottom of which rolls the river Adige; which, at times, finding its course contracted in the narrow part of the valley, dashes impetuously with a white foam against those tremendous rocks.

ALTHOUGH this situation is both wild and barren, it contains many valuable plants, viz. the *Echinops Sphaerocephalus*, *Plantago Alpina*, *Saponaria Vaccaria*, *Delphinium Peregrinum*, *Anthyllus Hermania*, *Dorcnio d'Alcunni*, *Myosotis Capula* or *Cynoglossum Vulgare*, *Campanula Specula*, or the *Onobrychis Ongarica* of Carlo Clusio, the *Philomis Purpurea* or *Verbasco Tertio* of Mathioli, and the *Chrysocoma Hinasquis*, &c.

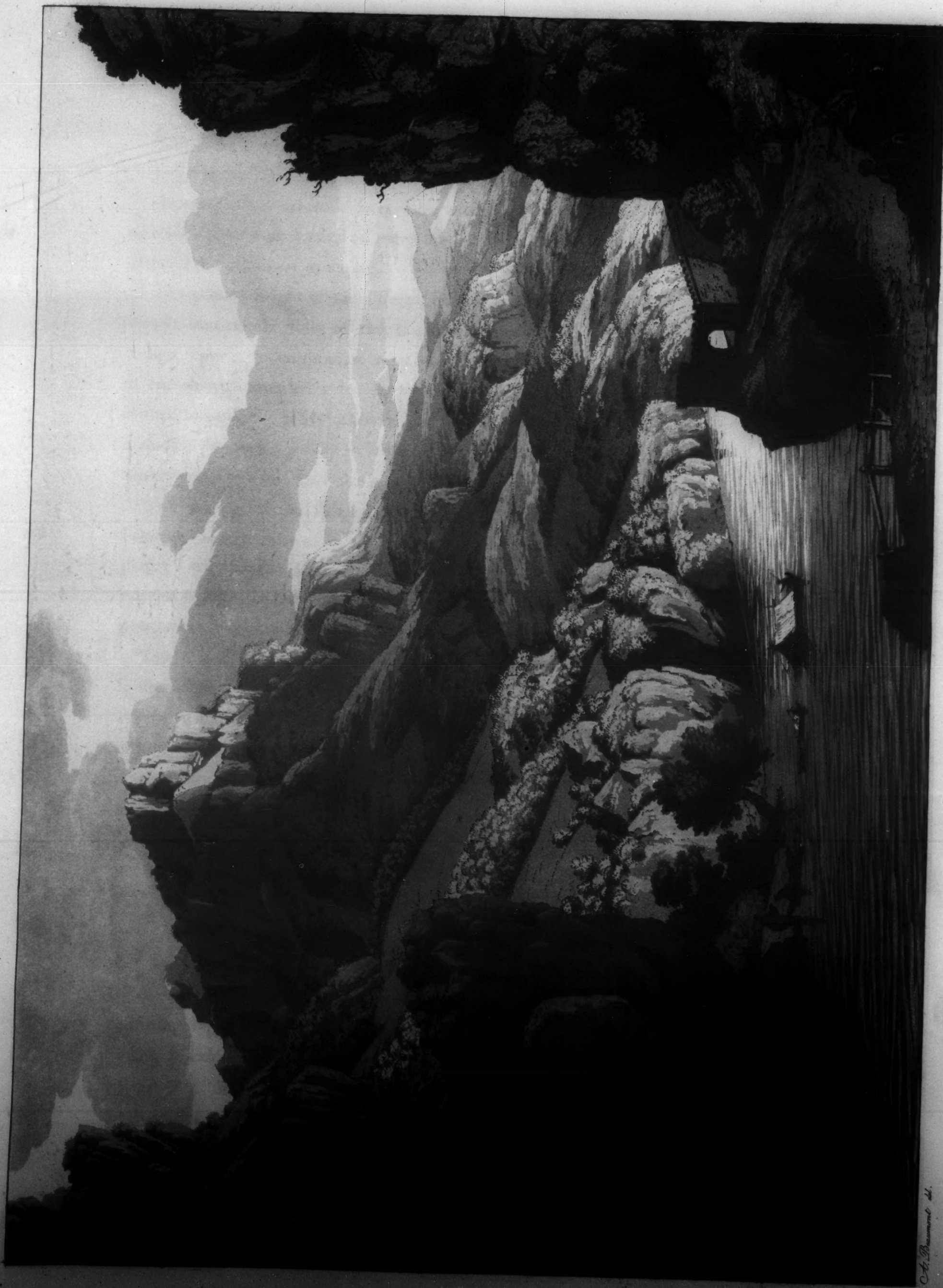
THE mountains, which border the contracted part of the valley, are mostly composed of calcareous stone, of a yellowish colour, the grain of which is particularly coarse, containing a quantity of marine bodies, unknown in the European Seas; viz. a variety of *entochæ*, *echinites*, *belemnites*, &c.

I, NEVERTHELESS, perceived in various parts of the mountain (which is situated on the left from Verona, and a continuation of mount Baldo) extensive banks of marble, of a deep red, which seemed to compose the base of that mountain.

THOSE banks form an angle with the horizon, of nearly twenty-three degrees and a half, from East to West. I was surprised at finding that they did not immediately effervesce with acids, not being then able to account for it; but, before the conclusion of this work, I propose explaining in what manner I convinced myself that acids do not always serve to distinguish calcareous stones.

THE inferior strata of the greatest part of the mountain we have been describing, which lie between the banks of marble, are of a finer grain: however, not finding the least trace of marine productions, I was led to suppose it probable, that the mountain, as well as several of the secondary chains of the Alps, may have been formed at different times: a conjecture which is supported by many of our naturalists. It is, nevertheless, a subject of too great importance in the study of geology, to decide on, without very mature and exact observations. Many of the ancient naturalists of Italy, and among the rest Giovanni Pona, assert, that "near the fort of Chiufa, the two mountains which

" at



C. Apodol famp.

the pafs of CHIUSA and distant MOUNTAINS near BELLUNO and OSSENIGO

Published as the Net directs Jan^y 1. 1792. by T. G. Gordon, Whitchell, for the Author

Ch. Beaumont del.



“ at present form a kind of canal to the Adige, united formerly, at an immense height ;
“ so that the river being pent up within close rocky banks, and the channel being
“ steep, the water precipitated itself from the summit of those mountains, forming a
“ large water-fall.” He also adds, “ that, the course of the river being thus stopped,
“ the waters had naturally formed an extensive lake in the valley of Lagarina.” His
assertion is very probable, as every appearance indicates that the pass of Chiufa is as
much indebted to art as nature.

THE relative height of the different strata, as also the parallelism in their inclination,
clearly seen on the sides of the two lateral mountains, which serve as limits to the
Adige, appear to corroborate what that writer supposes to have been the case ; for,
if one observes attentively the scarps of the greatest part of those mountains which are
turned towards the valley, they will be found furrowed, forming several parallel excava-
tions in the rock, greatly resembling the northern side of mount Salève in Savoy ;
which seems to prove that the waters retired reluctantly from those mountains.

THE passage of the Adige, at the fort of Chiufa, is very like that of the Rhone
between the extremity of mounts Jura and Vouache, below the fort of Cluse. Those
places have likewise a similarity in their names, the word *Chiufa* implying a *door* or
narrow passage ; a term generally made use of by the inhabitants of the Alps and Pyre-
nees, when speaking of defiles.

THE fort of Chiufa is situated on the edge of a high rock, which commands the road,
is nearly perpendicular to it, and a continuation of mount Valergue. It serves as a
barrier to the defile ; and the Venetians, to whom it belongs, keep a small garrison, in
order to protect it. They have also strengthened with a wall and parapet, the sinuations
or windings of the rock, which extend to the bottom of the mountain, and are there
terminated by a large square tower, where a few invalids are stationed to collect the
duty on all merchandize imported into the states of the republic. This spot is as wild
and barren, as the valley I spoke of with so much pleasure is rural and well cultivated.
The pass of Chiufa is even dangerous in the night, being infested by a number of rob-
bers, who are frequently lurking on the frontiers, in hopes of considerable booty, by
plundering the unsuspecting traveller. At a small distance from the Fort, the valley
widens insensibly ; and the first village on that road is called Peri, which is small,
consisting only of a few houses. Thence one proceeds to Offenigo, the last village
leading towards Tyrol, belonging to the states of Venice ; for, in the vicinity of that
village is a small wooden cross, which serves to mark the boundaries of the two
sovereignties of Verona and Trent, or, perhaps more properly, the limits of the county
of Tyrol ; as the four Vicariati, situated in the valley of Lagarina, and on the road to
Reveredo, certainly form part of the bishopric of Trent : but the House of Austria
having

having reserved the territorial superiority over the Counts of Castlebark, who at present possess them as a feudal tenure from the emperor; that small province may be said to belong to the county of Tyrol.

THOSE Vicariati include four large boroughs, viz. Ala, Mori, Avio, and Brentonico; but before I quit the Veronese, I must not omit speaking of mount Baldo, which is famous for its fimples, and the tempestuous lake of Garda, or Lacus Benacus, whose waves Virgil justly compares to those of the sea. Its direction is nearly from north to south; offering most enchanting and picturesque views, preferable, if possible, to those of the lake of Geneva: but, to do them justice, and to describe them with the elegance and advantage they deserve, one ought not only to possess the talents, but the pens of the philosophic naturalists of Geneva.*

THE banks of the lake are irregular, and its shores much indented, which greatly adds to the romantic view, for the waters are frequently seen forming a variety of creeks and bays, in the midst, as it were, of extensive and well-cultivated meadows, whose sides are embellished with various sorts of trees; further up the lake the scene shifts, and the land is seen extending itself in the water, which, at a distance, has the appearance of so many enchanted peninsulas, or islands of different forms and dimensions. Its length is thirty-five Italian miles, and its width fifteen. A number of small commercial cities, boroughs, and villages are situated on its banks. The inhabitants, who are active and industrious, enjoy all that ease, comfort, and cleanliness (so seldom seen in the plains of Italy), which must be entirely attributed to their trade and habits of industry. There are also a variety of manufactories.

THE principal cities which border the lake, are, Torgole (belonging to the bishopric of Trent), Massena, Tori, and Garda (from which the lake takes its name). It is supposed that Adelaide, wife to the Emperor Lothaire the Second, king of Italy, and daughter to Rodolphus, king of Burgundy, was, in 949, confined in that city by the cruel Berenger the Second, usurper of the crown of Italy.

THIS unfortunate princess, finding means to elude the vigilance of her keepers, effected her escape in the dead of night; but, having mistaken her way, she fell into a large piece of water, where she remained four and twenty hours (for fear of being discovered) nearly exhausted by hunger and cold; she, at last, alone and unassisted, extricated herself, and took refuge in the fortress of Canoze, whence she solicited the assistance of the Emperor Otho the First, who, having avenged her wrongs, and delivered her from her persecutor, married her in 951, and took her to Pavia, where her virtues and accomplishments not only gained the affection of her husband, but the admiration of every one.

* It is easy to conjecture that I mean Messrs. Bonnet and Saussure.

To the poor and the oppressed she was a kind and benevolent benefactress; but a sworn enemy to hypocrisy and deceit.

THE other cities in the vicinity of the lake, are, Lacise, Defenzano, and Peschiera which is situated at the southern extremity of it and on the river Mincio, whose waters issue from the lake, in the same manner as those of the Rhone at Geneva issue from lake Lemman.

THE peninsula of Sermione, which is illustrious for having given birth to the poet Catullus, deserves the observations of the Naturalist, as there are several sulphureous mineral springs contiguous to the lake. The cities of Alo, Gargnano, and Pfarol, are famous for their manufactories of cloth, wool, and stuff.

I SHALL wave the description of a variety of iron founderies, where several articles are fabricated for exportation; as, also, a number of mills and pressing-houses, made use of for extracting the oil of olives, &c.

THE lake Garda is well provided with fish, and, by those means, affords a maintenance to the poorer inhabitants, who get their living by fishing.

THE hills, which nearly surround this vast expanse of water, are merely small roots of those high and tremendous mountains which serve as its eastern, western, and northern boundaries; but they are blessed with such an union of different and various productions as belong to few other regions; for those, towards the south, are covered with orange, lemon, and olive-trees, intermixed with all kinds of delicious fruit trees, and ornamented with the leafy branches of the vine. The myrtle, which is as common as at Nice, is planted by the inhabitants to divide their territorial possessions. The northern hills are enriched with trees of a different species, though not less useful, viz. the beech, the ash, green oak, and common oak, which are most of them excellent timber for building of ships: there are also firs and larch-trees, of a considerable height and bulk, which adorn the most elevated summits near the lake.

THE highest chain of mountains towards the east consists of the mounts Albare, Gambon, Poffete, and Nago, which is still a continuation of Mount Baldo, or Alpi di Monte Baldo. There are several large banks of marble found in them, but the red is predominant. Those mountains are composed of calcareous stone, containing a quantity of impressions of marine productions; I shall not however attempt a description of them, not having had sufficient time to make any observations worth notice.

TOWARDS the west are the mounts Lignano, Pinedo, Puria, Darzo, and the elevated Peak of Mount Cretagna, which is nearly opposite to that of Nago; the two last are situated in the bishopric of Trent.

I RECEIVED such pleasing accounts of mount Albare, and of the charming and extensive views which are thence conspicuous, the eye being able not only to discern the Adriatic sea

but even Venice, with the cities of Padua, Vicenza, Verona, and the greatest part of the Mantuan country; that, had my time permitted, I could have wished to have transported myself thither, in order to enjoy such beautiful scenery; as also to have explored the mount, and taken its elevation, having with me a barometer constructed according to Mr. De Luc's principles, in his ingenious work entitled "*Recherches sur les Modifications de l'Atmosphere.*" I should at the same time have added to my collection of plants the *Trifolium Alpinum*, mentioned by Giovanni Pona; as also the *Ocymoides Muscosus*, *Geranium Alpinum*, *Longuis Radicatum*, &c.: but, being under the necessity of continuing my route, I was forced to content myself with the information which had been given me.

I WOULD advise the Naturalist and the inquisitive Traveller not to omit visiting the lake of Garda and its environs; as that extensive and beautiful piece of water, with its adjacent country, forms one of the most picturesque and enchanting scenes I ever beheld.

To those who are desirous of viewing what will so amply repay their time and trouble, I would recommend from Verona the road to Paschiera, which is situated at the southern extremity of the lake; but, on coming from Germany, the high road to Italy must be left near Roveredo; and, after crossing the Adige, travellers should proceed to Torbole, a small town, twelve miles distant from that city, situated towards the north.

THE Sarca is the most considerable river which falls into the lake. It descends with remarkable rapidity from the great Glaciers, which are nearly six miles in extent from north to south: they not only surround the mounts Bedole, but even reach the lofty summit of Vederette di Lares.

THIS river, after crossing the vallies of Rendena and Arco, runs into the Garda, between the charming city of Riva and Torbole.

I WILL now finish my description of mount Baldo and lake Garda, fearing that I have already by this digression trespassed too much on the patience of my reader, and will therefore proceed on my route from the small wooden cross near Offenigo, the last village belonging to the state of Venice.

SOON after passing the limits already mentioned, one enters the bishopric of Trent, near Rocca-Pia, where some Austrian soldiers are stationed to guard the defile, prevent smuggling, and protect the traveller from a banditti which sometimes infest that road.

THE first place, of any consequence in the bishopric, is Ala, a post-town, distant one hundred and five miles from Venice, well built and extensive. It is seated on the river whence it takes its name, which runs into the Adige, after crossing the fertile valley of Ronchi. There is also at Ala a manufacture of velvet, much esteemed in Germany. The country is well cultivated, and covered with a variety of fruit and olive-trees, which serve to support the vines, in great abundance here, and productive of tolerably good wine.

FROM

FROM Ala to Roveredo (which is the second post-town after quitting the states of the Republic) the road is particularly pleasant, and follows nearly the course of the Adige, passing several small hamlets situated on the declivity of the mounts Perabio and Zaina.

THE valley of Lagarina continues widening till near the castle of Seravale; the country, which is watered by the Adige, and several other small rivers, is fertile, romantic, and well inhabited; the mulberry tree in particular is remarkable for its size; the scene changes, as the road draws near to the village of Chizola, situated at the entrance of a long narrow plain, at the foot of the mounts Marco, Tovo, and Pra. The country then becomes desolate, wild, and barren, there being only a few tufts of yews and firs, which make their appearance from between large pieces of loose rocks that nearly fill the plain and contract the road, offering a melancholy picture to the speculative traveller. Those ruins are the effects of the fall of the mounts Marco and Tovo; this desolate spot, which is called *Slavini de Marco*, or, very improperly, the *wood* of Roveredo, is as dangerous in the night, as the pass of Chiufa.

It is, however, probable, that a wood or forest may have existed prior to the overthrow of these mountains, which might be totally destroyed by the violent concussion. I endeavoured to gain some information as to the time it had happened; but without success, as they assured me that it was scarcely a century ago, which does not by any means appear probable, as ivy, in masses uncommonly large, has taken possession of most of the stones, and even shrubs seemed to have taken root, which convinced me the event must have been at a more remote period.

THOSE rocks are calcareous, of the species Wallerius terms "*Calcareus Scintillans griseus*," without any petrifications of marine substances, at least I did not find any.

ROVEREDO, which is a small town in the bishopric of Trent, and distant from Ala seven Italian miles, is well built, has a castle that commands the town, surrounded by fortifications: it is also the capital of the district whence it takes its name, which comprehends the vallies of Valarz, Teragnal, and Tranbelen. The inhabitants speak German. One begins at Roveredo to distinguish some little difference, both morally and physically, between the people of this country and the Veronese; for although they do not inhabit so rich and cultivated a soil, owing to the country's being mountainous, yet they are stronger, more active, and more opulent. The town is governed by a chief magistrate or *poteſta*, who is nominated by the bishop of Trent. It is commercial, having several manufactories, and one in particular of silk, which is much admired. Its situation is delightful; it is watered by the Lena, which loses itself in the Adige at a small distance from the town, where several vallies meet, and form a spacious well-cultivated plain, nearly circular.

THE fertility of the soil, and the wholesome comfortable appearance of its inhabitants, soon make one forget the barren and desolate *Slavini di Marco*.

FROM Roveredo, one continues on the banks of the Adige, till one gets to the foot of *Castello della Pietra*, situated on a rock, which is a continuation of the mount of the same name. Thence one proceeds to the village Caliano, seated on the river Gola; leaving on the right, the castle of Befeno, memorable for being the spot where the Venetians were defeated by the Tyrolese in 1487, when they attempted to retake the four vicariati which originally belonged to them.

THE Count of Trapp is the seigneur or lord of the manor of Befeno; but there is an Austrian garrison kept in the castle.

SOON after quitting Caliano, the country becomes mountainous, and the valley contracts, forming several projecting and injecting angles, which, checking the course of the Adige, make it meander here and there, and form an appearance resembling many small islands, so as to add greatly to the variety of the scene. On the right hand of the road from Caliano is the mount Scanupia, which is steep, and partly composed of a grey calcareous stone, although near its base, towards the east, are strata of red schistz, which effervesce with acids, and contain the impression of plants resembling fern.

THE mountains on the left are not so steep: the most considerable are Bondon, Lafino, and Cornato; I was informed that in the environs of the valley Cavedine (situated at the foot of those mountains), there were still existing several extinguished volcanos; but as I did not see them, I will not affirm it as a certainty. The valley widens, as one approaches the city of Trent, forming a beautiful and fertile plain, watered partly by the river Perfina, which descends from the valley of Canezo, as also by the Adige, which crosses it from north to south.

THOSE two rivers, which fertilize that part of the country, at times cause vast devastations; owing to the inundations occasioned by the melting of the snow on the primordial chain of these Alps, whence the torrent rushes with great impetuosity, carrying with it a prodigious quantity of stones, sand, and slate, which cover the country as the torrent passes, and effectually stop, for a number of years, every species of vegetation.

THE inhabitants, knowing partly the season when they are to expect this catastrophe, endeavour, by raising banks, to shelter themselves from approaching destruction.

I SHALL reserve a description of the city of Trent, its origin and form of government, for the following section.

SECTION IV.

REMARKS ON THE ORIGIN AND FORM OF GOVERNMENT OF THE BISHOPRIC OF TRENT —
 DEPARTURE FROM THAT CITY — DESCRIPTION OF ITS ENVIRONS — GENERAL
 OBSERVATIONS ON THE SECONDARY CHAIN OF THE ALPS,
 CONNECTED WITH THE ROUTE FROM TRENT
 TO BOTZEN — ARRIVAL AT BOTZEN.

THE city of Trent, which is the capital of that bishopric, is also the residence of its Prince and Bishop. Strabo and Ptolemæus, but particularly the latter, in his third book on geography, speak of that city, by the name of Tridentum; dating its origin at a very early period, supposing it nearly as ancient as Rome, and founded by a Tuscan Prince, whose name is unknown.

It is certain that the province of Trent formerly made part of the country of Etruria, whose inhabitants were called by the Greeks Tyrrheni, or Pelasgi, and by the Romans Tusci, or Etrusci; but as each Etrurian province, according to Livy and Pliny, bore a particular name, the inhabitants of the Trentine country were called Rhæti, which included the chain of Alps, from which flows the river Adige, or Athefis. At the time of the decline of the Etrusci, the city of Tridentum was besieged by the Cenomani, a courageous and valiant people, inhabitants of the Cisalpine Alps, situated to the west of lake Benacus. After a long and tedious siege they became masters of it; and, having improved and strengthened it considerably, they made it one of their principal cities: but these people being, in their turn, conquered by the Romans, that city, as well as the remainder of the Rhætian country, fell under their dominion; although its inhabitants were not entirely subdued till twelve years before the Christian era.

THOSE warlike and blood-thirsty people having committed several acts of horror and cruelty in the Cisalpine Alps, Drusus, son of Tiberius Nero and Livia, marched a considerable army against them, and partly defeated them in the plains of Lombardy. He then pursued them to the foot of their mountains, where his brother Tiberius terminated the conquest, subduing them entirely by famine.

SINCE the fall of the Roman empire the city of Trent, or Tridentum, belonged successively to the Huns, the Goths, and the Lombards; as also to the Emperors of the west; but, in consequence of several revolutions which happened in that empire, it became the property of the house of Bavaria, and afterwards an imperial city: at

last, the Emperor Conrade, surnamed SALIQUE, made a gift of it, in 1027, to its bishop, with its territorial possessions; which was again confirmed, in 1155, by the Emperors Frederick the First and Second.

SINCE that epoch the city of Trent has been under the jurisdiction of its bishops, who take the title of Prince; although the counts of Tyrol have reserved the right of Prefecture over the bishopric, which is still under their protection. They have also the privilege of appointing a governor, during a vacancy in the episcopal see.

THE house of Austria, having been in possession of the county of Tyrol since the year 1369, enjoys all the privileges abovementioned. In 1363, Bishop Albert, with the consent, and by the advice, of the Chapter, issued a decree in behalf of Duke Rodolphus, by which he joined his bishopric for ever to the county of Tyrol, agreeing to share in all the expences that might be necessary for the safety of the state; granting also free access to his troops, into all the cities, castles, and fortresses of his dominions. This offer was accepted by the Dukes Albert, Frederick, and Sigismund; and afterwards by the Emperor Maximilian the First and Ferdinand the First.

ABOUT the year 1511, it was agreed between the Archduke of Austria and the Bishop of Trent, that the latter should send deputies to the diet of Tyrol; and that he should not only participate in their deliberations, but join in defraying the necessary expences incurred in maintaining the prosperity and safety of the State; but, at the same time, the Archduke promised, as Sovereign of Tyrol, partly to reimburse the bishopric for all extra charges relating to the empire. This treaty was again ratified, in 1548, at the diet of Augsburg.

THE Bishop of Trent, being a Prince of the empire, has consequently a vote and seat in that quality, at the Diet of Ratisbon, &c. He is elected for life by the Chapter, which consists of eighteen canons and prebendaries of the most ancient nobility of the country, who have also a seat in the assemblies of Tyrol.

THE Aulic Council of that Prince is composed of ecclesiastics and laymen.

THE hereditary places belong to certain distinguished families: that of Grand Marshal (which is considered as the first) belongs to the house of Firmians; that of High Chamberlain, to the Counts of Darzo; that of Cup-bearer, to the family of Thun; and that of Seneschal or Head-bailiff, to the Barons Prato.

THE territory attached to the bishopric is extensive, being nearly eighty miles from east to west, and sixty from north to south. It contains several cities, and a number of villages; it is well inhabited, and the country is both fertile and cultivated. Its inhabitants, whose honesty and simplicity are generally marked on their countenances, are particularly mild and affable; so that, were one to judge of their form of government from their apparent happiness and industry, one should not hesitate to pronounce it one of the best;

best; for the people, although unadorned, and but indifferently instructed, yet, being endowed with so much virtuous simplicity, they are objects to be contemplated with pleasure. Their taxes are moderate, and arbitrary power is seldom exercised. The language is either German or Italian; but those who are situated to the west of the Adige, and north of Trent, in general, speak German. That city cannot boast of many curiosities, yet there are some few churches worth notice; the columns, pediments, &c. of which are highly finished in various sorts of beautiful marble, of the country; they also contain several valuable paintings of the first masters. The capital houses belonging to the nobility ought not to pass unnoticed, the architecture is good, and they are finished with taste; but, in general, their mansions are as simple as their manners, and remarkably neat. The streets are tolerably wide, and regular. The city is not fortified, having only a single wall surrounding it, commanded by an old ruinous castle, where a few invalids are stationed.

THE Bishop's palace is a Gothic building; it is spacious, and merits the attention of the traveller: it contains several beautiful paintings in fresco. The church of Santa Maria Maggiore ought also to be seen, where the famous Council of Trent was held, the fifteenth of December 1545, and lasted till 1563. It was convened by the Emperor Charles V. and Pope Paul III. in order to refute the doctrine of Luther, and reform the licentiousness and corruption which had crept in among the clergy and laity; but it had not the desired effect, owing to the dissensions among the heads of the council, and the wars which at that time distracted Europe.

It was convoked three times in the space of eighteen years, and during the reign of five different Popes, viz. Paul III. Julius III. Marcellus III. Paul IV. and Pius IV. (For further information see *L'Histoire du Concil de Trente*, by Pierre Soave Polani, or Fra Paoli.)

IN the same church is a large picture, descriptive of the event, with the members, &c. as assembled in council.

THE Adige, which crosses the city, and over which is built a curious wooden bridge, one hundred and sixty-three feet long, not only gives it a commercial appearance, but adds greatly to the wholesomeness of the place; for, although it is situated in the centre of a small plain, surrounded by elevated mountains, the air is reckoned salubrious; which must be attributed in a great measure to that and its proximity to the Alps.

THE heat is excessive in summer; but, owing to the great Tridentine Glaciers, which are at no great distance, they enjoy, morning and evening, a refreshing breeze. From the same cause their winters are severe (although in latitude 46), which is common to all places situated near the base of that extensive range of mountains.

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MOST of the houses are built of a coarse reddish marble, called by Wallerius *Marmor variegatum rubrum*, and cut out of a quarry near the city. The banks of marble are particularly thick, and appear to extend below the soil, forming an angle of nearly twenty-two degrees and a half.

I HAVE made a general observation, that, in the quarries from Chiufa to Trent, as also wherever the base of the mountains is sufficiently bare, one may depend on finding banks of marble which vary in colour, but very little as to their inclination, seldom exceeding five degrees. The grain is partly every where the same, without the least appearance of marine substances; and those marbles scarcely effervesce with acids.

It is widely different with the calcareous beds of stone, and schisti, which lie above those of marble; for the calcareous stone frequently, after having been for some time parallel with its base, will at once form an angle of thirty-six degrees, as if the mountain had suddenly given way, and sunk in that part, owing to some subterraneous commotion. As for the strata of schisti, they are, in some places, nearly perpendicular; and they both, in general, contain a quantity of marine bodies, with impressions and fragments of shells and plants.

ALTHOUGH I was determined, at the beginning of my work, merely to state occurrences as they happened, without giving a decided opinion upon any particular object; yet I cannot help, in this instance, deviating from my original plan; as every thing seems to prove that the greatest part of our continents and secondary mountains have been unquestionably formed at different times from the sediment of the waters of the sea, which have more than once covered them.

THE situation of Trent is extremely rural, being built on a peninsula, formed by the Adige and the river Ferzina, as I mentioned in the preceding section.

IN a western direction from that city is seen the lofty summit of mount Vason, whose base is entirely concealed by the fertile hill of Dostrent, or Dorsum Tridentum, where it is supposed a temple, dedicated to Neptune, formerly stood. There are also the remains of a castle, which was built by the Lombards. Towards the east are the mounts Celva and Terra Rossa; the latter takes its name from the colour of the soil, which is a mixture of red potter's earth, or ochre, containing a quantity of iron called by Monsieur de Bomare *humus rubra*.

THE extension of mount Pine is visible towards the north, where there are considerable beds of schisti, of different species, containing either iron or lead. They have even begun to work one of the mines, and found it answer their expectations. I procured, at the inn where I lodged, two beautiful chrysalizations of selenitæ, or moon stone, which had been taken out of that mountain, from among the strata of schisti.

ON quitting Trent we leave the road to Venice, through the province of Trevigiano, to the right, which is much shorter than the one we have been describing, as they only reckon seventy-seven miles from thence to that capital, and one hundred and twenty-four by the way of Verona; but the road is neither so good nor so pleasant. The small plain, at the entrance of which is situated the city of Trent, is ornamented by a number of hamlets and beautiful villas. The soil is well cultivated, and produces a variety of excellent fruit trees, &c. It is also furrounded by a range of hills covered with vines, which appear as the first regular gradation towards that high and tremendous chain of the Alps, that rise from the back ground, and enrich considerably the scene, by encreasing the pleasure which so beautiful and picturesque a spot naturally inspires. From thence we proceeded to the town of Lavis, seated at the northern extremity of the plain, one mile from the Adige, and on the banks of the torrent Avifio, which rushes with great rapidity from a Glacier situated between two remarkably steep mountains, called *Vedretta di Marmolata* & *Campo della Salva*, in the Bellunese province.

It is proper to observe, that the highest mountains south of the Great Brenner are distinguished by the name of Vedretta, and those on the north by that of Spitz.

THE torrent Avifio crosses the extensive vallies of Fassa and Fiemme, or Vallis Flemarum, which are more than twenty miles in extent, fertile, and well inhabited. The people carry on an extensive trade in cattle and wood with the Italians, which accounts for the preference they give to their language, as they speak it more fluently than the German.

CAVALEZE is the principal town of those vallies, extensive, and well situated. The torrent, which rushes impetuously, carries with it vast quantities of stone, gravel, &c. of various sizes; and was formerly the cause of devastations in the vicinity of Lavis; but the inhabitants of that town, jointly with those of Trent, caused a dike to be made in that part where the torrent appeared most formidable and dangerous; and it had the desired effect. The work is executed in stone, and does great credit to those concerned in it.

ON quitting the town of Lavis the mountain Corona contracts the valley; but it soon after widens and forms a plain, by no means inferior to that of Trent, either in fertility or population.

THE people of that country give up their time entirely to agriculture, and are, of course, very industrious.

THEY experience, during the summer, such a succession of dry weather, that the produce of their land would be entirely destroyed, had not several of the most opulent inhabitants, prompted by a desire of promoting public good, erected, at their own expence, a number of machines on the banks of the Adige, in order to raise the water from the river, and conduct it over the land in the following manner: —

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THOSE machines are thus constructed—A wheel, nearly twenty feet in diameter, is provided with wooden buckets. These, filling as the wheel turns round, empty themselves into a conduit, which conveys the water over the land by furrows cut in the ground. The wheel is supported by a tressel, which rises or falls according to the depth of the river. The invention is so perfectly simple, and at the same time of such great utility, that it is to be lamented it should not be known in those countries where want of water occasions a total loss of their crops of hay, &c.

ST. MICHAEL, which is a post-town, may be looked upon as a key to the valley, or plain, we have been describing, distant from Trent near eight Italian miles. It has nothing to recommend it except its situation, which is delightful, being seated at the confluence of two capital rivers, viz. the Adige and the Nos: this last waters the extensive vallies of Non and Sole.

THE valley of Non, or Anania, is fertile, and well inhabited; but by no means extensive: yet it contains a number of castles, villages, and hamlets, and is resorted to in the summer by most of the principal families of Trent and its environs. Its direction is from south-west to north-west. That of Sole is much larger, and extends from east to west. The air is also more keen than that of Non, owing to its being more elevated, and surrounded by Glaciers, which are in a north-west direction. The most considerable are those of Kluften Farner and Zufall Farner (for, in the Tyrol, all Glaciers are known by the name of Farner). Having conversed with several of the peasants who were huntsmen, they assured me that they were more than twenty miles in length.

OPPOSITE to St. Michael is mount Corno, which is remarkably steep, and a continuation of a range of mountains that descend from the high Alps, called Mendola, extending from north to south. At the foot of mount Corno is a rugged hill, composed of a kind of compound stone, which Wallerius terms *Cos particulis Minimis Glareosis, Mollis, Cædua*, Esp. 76.

IN the front of the hill is an extensive cavity, in which is constructed a small hermitage, called St. Gotha. Although the road is difficult of access, yet it merits the attention of travellers, from its singularity, and elevated situation, which commands those vallies.

ABOVE the hermitage is the village of Mezzo Tedesco, or Half German; and on the opposite side of the river Nos is that of Mezzo Lombardo, or Half Lombard. These villages boast of their antiquity, and trace their origin from the time of the wars between the Lombards and Bavarians.

SOON after passing the castle of Konigsberg one enters the valley of Salurne, which is fertile, and well cultivated. The village is situated at its extremity. The next post-town is Neumarkt, distant eight miles from St. Michael. It is the common opinion that it was formerly known by the name of *Indidejum*, a city belonging to the Rhæti. From
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thence one proceeds to Branzoll, which is the next post, a small village, nearly surrounded by heaths and marshes.

OPPOSITE is the small lake of Calterer, which takes its name from the village Caltern, situated below the lake, famous for its hot alum baths of Muchlbach, at the foot of mount Mendola.

THE road from Branzoll to Botzen, or Bolfano, is nearly the same as that from Neumarkt to Branzoll, the adjacent country being well cultivated and covered with vines.

ON this side Botzen is the castle of Haslbach, which is on an eminence, and commands the valleys of Botzen and Venosta. One quits the course of the Adige, near the castle, to follow that of the river Eisach, the road continuing on its banks till one gets beyond the Brenner mountain, where it takes its source.

THE valley of Venosta, which is left on the right, is more than fifteen miles in length, and is watered by the Adige, which descends from the extensive Glaciers of Langtauffer, and Gebatsch, situated to the north of the small village of Clurns, and the town of Schlanders.

BESIDES those two places, which are considerable, is the ancient city of Meran, seated on the river Passer, and near the Adige: it was formerly the capital of the county of Tyrol, and is even at present acknowledged as such in their public records.

AT no great distance from Meran is the spot where stood the original city of that name, or Urbs Majiensis, which was entirely destroyed in the fourteenth century, and buried in the ruins of a mountain that suddenly gave way.

NEAR that city is the borough and castle of Tyrol, the residence of the ancient counts of that province, and from whence they take their title.

THE inhabitants of its valley are very industrious, and consequently diffuse over the country an appearance of comfort and ease. They have several manufactories; but their carpets and laces are particularly admired. The river Eisach separates the castle of Haselberg from Botzen, which are a mile distant from each other. Its situation is pleasant and picturesque, being in the center of four valleys, and at the meeting of two capital rivers, viz. the Talfer and the Eisach. The first takes its source at the foot of mount Schneeberg, and the other above the great Brenner. The houses are uniform, and well built; the streets are tolerably wide; and the air mild and temperate, although in the vicinity of the Alps.

THIS city formerly made part of the bishopric of Trent; but since the year 1295 it has belonged to the house of Austria. Its commerce is considerable, being, as it were, a place of reunion to the Germans and Italians, who meet there, to sell or barter the productions of their country, and the fruits of their industry. They have four capital annual fairs, although not so considerable as formerly; for the manufactories of silk, which

which are at present erected at Vienna and many other parts of Germany, have, in a great measure, deprived them of that branch of commerce.

THE city also enjoys several privileges, which were granted by Claudia, Archduchess of Austria. One in particular merits notice, as it tends to the maintaining of order and regularity. During the time that the fairs abovementioned are held, the citizens are permitted to appoint, from among themselves, four magistrates; two of whom are Germans, and two Italians, to regulate every thing necessary to prevent fraud, confusion, and disputes. They may also hold a court of justice, to enact laws and penalties necessary for that time only.

THREE days before the commencement of the fair a proclamation is issued, implying, that those who propose carrying on any kind of traffic are obliged to give their name to the judge, who enters it in a book, and then grants a certificate, or patent, sealed by the company of merchants, with the following device "*Ex merce pulchrior*," without which they cannot transact any business whatever, which is certainly a check to corruption and deceit.

THE environs of Botzen are fertile, and embellished with a number of beautiful villas and villages. The soil is excellent, and vegetation much more abundant than at Trent, owing to the mildness of the climate, being sheltered from the north wind by a chain of mountains, whose direction extends from east to west. The wines of Leytach, Leyfer, and Rentsch, are much esteemed. There are also hot baths at a mile from that city, called Campden.

THE valley of Botzen might furnish the Naturalist with a cabinet of lithology and botany, as the banks of the rivers which cross the plain, situated at the extremity of the four vallies, are covered with curious stones and fossils, productions of the high Alps, viz. quartz of different colours, a variety of petro-filix, feld-spath, jasper, crystals, granites, mica, porphyry, and filaments of amiant, fixed to pieces of selenitæ, of the fiftieth species of Wallerius, which he calls *Selenites Flavus*; besides many others too numerous for particular notice. As for the amateurs of botany, they will find themselves surrounded by Alpine plants, viz. the charming Cyclamen Coum of Linnæus, as also his Anemone Hepatica, Anemone Narcissiflora, Hyacinthus Racemosus, and Scandix Odorata; the Antipathe di quarta specie, the Cariofillate Alpina Minore, the Veronica Petria of Giovanni Pona, &c. I would, therefore, particularly recommend those four vallies for the inspection of the Naturalist, as deserving his attention.

SECTION V.

DEPARTURE FROM BOTZEN, OR BOLSANO—ARRIVAL AT THE CITY OF BRIKEN, WHICH IS
THE CAPITAL OF THAT BISHOPRIC—GENERAL OBSERVATIONS ON ITS FORM OF
GOVERNMENT—DESCRIPTION OF THE PRIMITIVE MOUNTAINS
CONNECTED WITH THE ROAD FROM BOTZEN TO
STERZING—ASCENT OF MOUNT BRENNER.

ARRIVING at Botzen earlier than I expected, I had time, before dusk, to visit the environs of that city; as also to gain the information I wished concerning the vallies of Talfer and Venosta, deferring, till the next day, seeing what was most worthy notice towards the east of Botzen, that I might not be hurried in the observations I proposed making that evening. As I wished, in the first place, to take the elevation of the valley of Botzen, I made use of my barometer, constructed according to Monsieur De Luc's principles, as I have already had occasion to mention, being desirous of certifying the existing difference between the height of that valley and the summit of mount Brenner. The reason I preferred that station was owing to its being nearly a quarter of the height of the mount, and because it would assist me considerably in taking its elevation when on the spot.

IN order to be more accurate in my calculations, I quitted the city, and ascended a small eminence, on which is situated the church of Gries and where the atmosphere was perfectly clear; because the vapours, that rise in consequence of the intense heat which is felt before sun-set in all the cities near the base of the Alps, would naturally have affected the thermometer of correction, as also the barometer. I found that the eminence where I then stood was 1266 feet and two-thirds above the level of the sea; from which deducting 54 feet and a half, which was the height I had chosen for my station, I concluded that the city of Botzen was situated 1212 feet and one sixth above the level of the sea.

HAVING so far accomplished my undertaking, I descended into the valley of Talfer, in order to walk on the banks of the torrent which crosses it, and from which it takes its name. I perceived them to be covered with large pieces of stone of different species, which had been hurled by the force of the torrent from the High Alps, and which are too numerous to particularize; I will, therefore, only describe two forts, which attracted my attention from their peculiar appearance.

THE first, however, surprized me less than the second, having seen some nearly the same in the Maritime Alps, of the county of Nice. It is a calcareous grey stone, of a fine grain, and stuck as it were to pieces of reddish granites, spotted with black and white, resembling those which come from Tuscany. Some of them, whose angles had been broken by the friction they had suffered in the velocity of their descent, from the high and tremendous peaks, from which they had been detached by the rains and thaws, had already taken an even circular form, leaving perfectly clear the place of union betwixt the calcareous stone and the granite, which are entirely different in their effects and in their principles. The second attracted my particular notice, as I could not distinguish what it was: it appeared to be a species of white calcareous stone, the grain as fine as the first, not unlike marble, although emitting sparks of fire when struck by steel. I had already found several similar to these near the fort of Chiufa, and in the road between Trent and Botzen. They did not resemble any species of quartz, or vitrescent stones; I was, therefore, in doubt how to class them: but supposing that they contained particles of quartz sufficient to produce the appearance of the sparks I had seen, I was led to imagine that they would effervesce with acids; for which reason, I determined to collect some pieces on purpose to try the experiment.

THESE observations taking more time than I intended, night stole on imperceptibly, before I had an idea of leaving the banks of the Talfer. It was, however, necessary to hasten my return to Botzen. In my way thither, holding the stones in my hand, I accidentally rubbed them one against the other, when, to my great astonishment, there issued a kind of phosphorus light, with no very disagreeable smell; but, having afterwards scraped them with my knife, a streak of light issued from the scrapings, which being both curious and uncommon, put me in mind of a memorial written by Monsieur Dufay to the Academy at Paris, in 1730, wherein he observes, that there are species of calcareous stones, marbles, and gypsum, or plaster-stone, which frequently emit a phosphorus light.

AT my arrival at the inn, I immediately threw some spirits of nitre on one of the pieces I had brought with me; but finding that it did not effervesce, I began to suppose it a species of quartz, which Wallerius terms "*Quartzum opacum fragile et rigidum.*" Not being, however, perfectly satisfied with that trial, I pounded some pieces of the stone, and then threw in some more nitre, which I had warmed, and immediately discovered that the powder effervesced considerably, which confirmed me in my former opinion, that these stones were calcareous, but of a species I was entirely unacquainted with.

AT the time I first proposed publishing these travels, I read, with infinite satisfaction, a letter from Monsieur Deodat de Dolomieu to Monsieur Picot de la Peyrouse, in the *Journal de Physique*, for the month of July, 1791, wherein he particularly mentions the stones I have been describing, having made the same route some time after me; and,

as that Naturalist terms them phosphorus calcareous stones, I shall make use of the same term whenever I have occasion to speak of them.

I HAVE been led to enlarge on this subject, being desirous of giving every information in my power to those who wish (when in that part of the world) to satisfy their curiosity, and procure themselves specimens of what I have described; as also to prove that it is impossible to decide with certainty, whether a stone is calcareous, by the effect of acids, without first reducing it to powder; and that the same species of stone will frequently emit sparks of fire when struck by steel, particularly when its pores are contracted, it being entirely owing to the strong coherency of the particles that those effects are produced.

THE evening being fine, and the weather apparently settled, I pleased myself with the idea of rising the next morning by day-break, in hopes of enjoying the pleasure of exploring the country, and walking, for some hours, before the carriage could possibly overtake me. Having thus settled my plan, I informed my fellow traveller, the late Doctor Briant, a man of merit and understanding, belonging to the suite of his Royal Highness the Duke of Gloucester, of my intention; for fear of causing him some uneasiness, by my sudden and unexpected departure. Rising at the time I proposed, I set off, after taking some refreshment, and was considerably on my way, when the glorious luminary of the day had scarcely darted its beams through the rugged openings of the mounts Rosen, Garten, Duhel, and Tasca, which are situated to the east of Botzen.

THE vapours, however, that were accumulating above the horizon, being uncommonly red, I had every reason to fear a storm in the course of the day, which would naturally impede my journey, and leave me in a most uncomfortable situation: but the extreme desire I had of viewing, at my ease, so curious and picturesque a country (which was morally impossible in a carriage) led me to persist in my resolution; although I must acknowledge that I had crossed the river Eifach, and even reached the village of Cardaun, before I had finally taken my determination; the freshness of the morning, however, and the beautiful scenes which surrounded me, soon dissipated my fears, and I proceeded with alacrity.

HAVING crossed the Eifach, I found myself in a valley, the entrance to which was tolerably wide; but it soon after contracts, so as scarcely to leave, in many places, room for a carriage, which renders that spot particularly wild and romantic.

THE river also carries with it a vast quantity of large pieces of granite, *corneus solidus*, or hornstone rock, and grey and white marble, &c. which, dashing against the rocks that contract the course of the river, add greatly to the rapidity of the stream, and cause a tremendous noise, which prevents one's hearing any thing except the rushing of the water.

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I HAVE already observed, that this valley is remarkably wild, but its aspect is neither barren nor unpleasant; for the adjacent mountains are covered with firs, larch-trees, meadows, and vineyards, which form a pleasing scene, and an agreeable contrast.

AT the small village of Blauman I again crossed the river Eifach, to reach Tutschen, which is a post-town, distant from Botzen eight Italian miles. Not far from Tutschen is a defile, or narrow valley, nearly five miles in length; and the road is almost the whole way cut through the rock: that pass is particularly dangerous at the melting of the snow, owing to the *avalanches*, or large heaps of snow, which roll down from the summits of the neighbouring mountains with great velocity, overwhelming every thing that happens to be in the way.

THE inhabitants generally expect this devastation in the months of April and May, which is the time of the thaw; although it is felt there in a less dangerous degree than at mount Cenis or the Col of Tende.

IN order to guard as much as possible against the accidents frequently occasioned by the cause abovementioned, the government of Brixen has constructed several small hermitages near the road, that travellers may find a possibility of sheltering themselves whenever they see those tremendous masses of snow rolling down the mountains. Each of these hermitages is a kind of chapel, with a portico in front. They are dedicated to different saints; but more generally to the Virgin Mary.

THE inhabitants, who are extremely devout, are continually endowing these chapels with gifts, and ornamenting them with small pictures, which they call *ex voto*, representing the cures they have received, and the miracles performed, through the influence of their favourite saint. They also, on Sundays and Festivals, decorate the images of their saints, and crown them with a wreath of the choicest flowers they can find, placing it on their head with every mark of religious homage and respect, lighting a taper on each side of them. This latter ceremony is, however, seldom performed, except when they have a vow to accomplish.

I PROPOSE relating an occurrence which happened to me during the present excursion. It will, I hope, not be deemed an improper digression, as it will shew the natural simplicity and character of the inhabitants.

I HAVE already acquainted my readers that, at my first setting out in the morning, the appearance of the atmosphere gave me reason to apprehend that there would be a storm in the course of the day: my fears were realized, and indeed earlier than I expected.

By nine o'clock, I had walked upwards of twelve miles; and, not perceiving the carriage, I gave myself up entirely to the pleasure of admiring the innumerable beauties which surrounded me, both in respect to botany and lithology. At every step I took, some curious plant or other attracted my notice; among which were discernible the
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elegant *Gentiana Purpurea*, the *Gentiana Punctata*, the *Epilobium Alpinum*, and the *Campanula Carpatica* of Linnæus; as also the humble *Tussilago Alpina Flore-evanido* of Chusio, &c. The rocks were tremendous, shelving over on all sides.

THE different species of strata of which these rocks were composed, and their extraordinary appearance, took up all my attention: some of them were a mixture of quartz and mica, of the 164th species of Wallerius, which he terms *Saxum mixtum anaticum*; and here and there I found their strata, or beds, nearly perpendicular: others were composed of heaps or pieces of granite, piled one upon another, intermixed with marbles of various colours and banks of hornstone, of the 143 species of Wallerius, named *Corneus fissilis*: it is, therefore, not to be wondered at, if I was insensible of the danger that threatened me, surrounded as I was by such a variety of natural curiosities, and in a valley which, all the way from the small village of Antlas, was so remarkably contracted by the shelving rocks on each side that I could only see a small portion of the sky. I was, however, suddenly roused from my contemplations, by a whirlwind which carried clouds of dust along the valley, and covered me in an instant; the sky darkened, and large drops of rain fell with such impetuosity, that I took it for hail; whilst the thunder, rumbling at a distance, and re-echoed by the surrounding rocks, appeared to threaten immediate destruction. That moment was certainly the most awful I ever experienced, finding myself alone, and a perfect stranger in a country, where I could but indifferently speak or understand their language, which is in general German; yet I still proceeded with hasty steps, not knowing whither I was going, or where to find an asylum. The tempest increasing, and the horrors accumulating, I gave myself up for lost; when, fortunately, I perceived one of the hermitages I have already described, which was nearly cut in the rock, resembling a cave, sufficiently large to afford protection to the affrighted traveller. Those who have crossed the Alps will easily conceive that my fears were not imaginary, as they must have encountered similar danger, and know the fatal consequence.

HAVING precipitately entered the hermitage or cave, supposing myself quite alone, I was startled at hearing a sigh, which seemed to issue from the extremity of it; and, turning hastily, I saw a young woman at her devotions, seemingly supplicating an image which represented the Virgin Mary, and in the act of crowning it with a wreath of flowers, while a taper burned on each side of it. Whether owing to the unexpected surprise of seeing me, or because the image was beyond her reach, I could not determine; but she was obliged to give up the attempt. I ventured to approach and offer her my assistance; at the same time, fearing that I might alarm her, I explained in the best manner I could the cause of my taking refuge in a place which appeared to be allotted entirely to acts of devotion. As soon as she had sufficiently got the better of her astonish-

ment she related an affecting tale in terms full of candour and simplicity. She told me, that her name was Anna; that she lived in the village of Sander, near the valley of Zargin; that she came every year to accomplish a vow she had made for her father's recovery, who was a miner, and had been taken from under one of the galleries, where he was at work, apparently dead. She added, that she was fifteen when the accident happened, which was three years since, and that she had never missed coming at the stated period. I was so enchanted with this good girl's simple narrative, that I again entreated her to let me place the wreath of flowers on the Virgin's head; but she modestly declined, saying, that she expected her brother, who was gone to Zimerlehen, a village not far distant; that he had promised her faithfully to return before the tapers were expired; then, casting a wishful look at them, and heaving a sigh, she said, that she feared the storm had detained him, but that she hoped no harm would happen to him.

THE thunder still continued rumbling over our heads in a most terrific manner: the flashes of lightning were more frequent, appearing incessantly as if crossing the defile, and nearly entering our place of refuge; whilst the rain, falling in torrents from the rocks, carried with it immense pieces of stone, which, from the velocity with which they fell, shivered into a thousand pieces, and added greatly to the horror of the scene. Anna, perceiving that the lights were nearly out, and that she should be prevented from accomplishing her vow, requested me, at last, to assist her in placing the flowers, which I had just accomplished, when we heard the approach of a carriage, which proved to be the one I expected. I had, however, the satisfaction of gaining some intelligence, from the post-boy, of her brother, who had passed him on the road: I was, therefore, released from the painful necessity of leaving that poor and amiable girl by herself in so solitary a situation, which the storm rendered still more distressing.

HAPPY people! whose morals are as pure as their ideas are innocent. Their hands will never be sullied with the blood of their fellow creatures; for their offerings to the Divinity are of the purest kind, conceiving that religion was meant to diffuse happiness and comfort among mankind, ignorant of the abuses which cruel policy has introduced!

WE proceeded on our journey, and soon got out of the defile. Fortunately the storm abated, the weather became more calm, and the clouds disappeared; yet the roads, from the violence of the rain, were filled with water, and, in some places, dangerous. The next post is Colman, a small village, with only a few scattered houses. At the extremity of that village the valley widens, and forms a plain which leads to the city of Claussen, or Claufium, in Italian Chiufa. It is built on a solitary rock, and is watered on the south-east by the river Eifach.

THE city is divided by the torrent Thinner, which descends from a valley of the same name, situated to the north; for which reason the city is distinguished by Upper and Lower Claussen.

MOUNT Mayrbodele, which is on the left, contracts the valley in that part, and makes it resemble the Pass of Cluse, in going to the Glaciers in Savoy. They are both situated at the entrance of the High Alps. Their names are also analogous; as I have had occasion to mention, when speaking of the Pass of Chiufa.

THE city of Claussen is in the bishopric of Brixen. The inhabitants, although industrious, are not supposed to be so opulent as those of Botzen. I was sorry that want of time prevented my seeing some lead and copper mines, which they are working in its environs. There are also some hot baths and mineral springs, which are resorted to by strangers in the summer.

ON quitting Claussen we passed by the foot of a hill, which is a continuation of mount Kuhberg, where is situated an extensive convent, called Saben, built on the ruins of the palace of the ancient bishops of Brixen: for, till the twelfth century, they resided in that city; but, afterwards, the episcopal see was removed to Brixen. It is the general opinion, that on that spot originally stood the city of Sabiona, which was destroyed by Attila.

THE environs of Claussen, and the adjacent country, are fertile, picturesque, and well cultivated. Several small vallies, viz. Villnefer, Afferer, &c. offer to the eye many interesting and pleasing views; whilst, on the back ground, a range of mountains of an immense height terminates the limits of the horizon.

THE naked and rugged peaks of the mounts Lorenzen, Fartschel, and Tschafatfeh, raise their towering heads towards the north-west; and, on the south-east, are those of Glander, Schlofs, Pragls, and Pallanfer. Their summits are entirely bare, and seem to be composed of granite.

THE next city, which is Brixen, is seated at the extremity of a small plain, at the entrance of three vallies, and at the confluence of two rivers, the Eisach and the Rients. The plain is contracted by extensive mountains, not unlike the situation of Botzen, whence it is distant nearly thirty miles. This city, called by the Italians Bressanone, and by the Germans Brixen, is the capital of the bishopric of that name, which extends ninety miles from east to west, and fifty-five from north to south. It is situated between the county of Tyrol, the bishopric of Trent, the States of Venice, and the archbishopric of Salzburg.

BRIXEN has nothing deserving the attention of the traveller, except its cathedral, of which the architecture is good, and well finished. The houses are tolerably well built, and mostly painted on the outside, which gives them an appearance of neatness, and
looks

looks uniform and pleasing. The inhabitants are industrious, travel much, and are mostly in the commercial line.

THE Bishop, who is Prince and Sovereign of his dominions, resides in this city, which is very ancient. What I have mentioned, with regard to the government of the bishopric of Trent, may, in a great measure, be applied to this; except that the Bishop and Chapter of Brixen did not originally give themselves up to the power of the Counts of Tyrol; for they reserved the power of renewing annually their grant, and were also to be looked upon as allies at the different diets; agreeing, however, to share equally in defraying the expences incurred for the preservation of the State. Besides those privileges, the bishopric is considered as forming part of the Austrian circle, and gives a right of suffrage to the metropolis of Salzbouurg; but as the Counts of Tyrol are the *vidames*, or judges of the temporal jurisdiction of that bishopric, they possess several feudal tenures. The Canons, who compose the Chapter, have the power of electing their Bishop. They are divided into two distinct classes, nine of them are to trace the origin of their nobility for four generations, both on the father and mother's side. The others, which are twelve, must either be doctors or licentiates in theology.

THE city of Brixen was formerly known by the name of *Antonius Sublabio*; and in the year 360, of our era, Pope Damasus sent the Abbé Cassien to propagate the gospel in those parts; but, as the Sovereign's residence was at Sabiona, it was there that the Prelate first chose to establish the tenets of Christianity. He erected a church, of which there are still some remains. Brixen is also noted in history for a council held there in July 1080, which was convened by the Emperor Henry IV. surnamed the Great, consisting of thirty Bishops, his partisans, who not only maintained the rights of that Prince against Pope Gregory VII. who had excommunicated him, but they even deposed the Pontiff, appointing, as his successor, the Archbishop of Ravenna, known by the name of Clement IV. (See the Chron. Baronius of L'Abbé Ursberg.)

THE torrent of Rients, which falls into the Eisach, at the gates of Brixen, is more considerable than that river, and descends from the high mountains which border the county of Tyrol towards Corinthia. It afterwards crosses the extensive valley of Puster, or Pustrißa, which extends fifteen miles to the east of the pass of Muchlbach.

THIS valley is extremely rich in wood and pasturage, and contains two towns, Brunnech and Lienz, which are tolerably extensive. The latter is not only ancient, but noted for being, in 1500, the burial-place of Leonard, the last Count of Gœrtz, and Sovereign of the valley of Puster, which afterwards devolved upon the house of Austria.

THIS valley contains a number of villages, hamlets, &c. Its inhabitants are the most opulent proprietors of the county of Tyrol, for each individual cultivates his own land.

THE

THE city of Brixen is nearly furrounded by hot mineral springs; some of them are fulphureous, others aluminous, metallic, &c. The inhabitants attribute the heat of those waters to some subterraneous cause, or extinguished volcanos; for they assured me, that there were vast quantities of volcanic productions found in the environs of the baths, and that earthquakes were very frequent with them; but want of time prevented me from convincing myself of the truth of their assertions.

It is to be wished that some enlightened Naturalist could be tempted to explore the environs of that city, as it might tend to throw fresh light on the study of geology; particularly as several scientific men have visited the major part of the Pennine Alps, and have not been able to discover any.

FROM Brixen the river Riantz and the valley of Puster are passed on the right, and three miles from thence one quits the Archbishop's dominions. After passing a small guard-house, which serves as a barrier to the county of Tyrol, the road begins to rise gradually, and one may there fix the first gradation towards the ascent of the Great Brenner. Owing to its being remarkably contracted on the left by the adjacent mountains, a bridge has been built across the Eifach, in order to continue the road on the other side of the river, which afterwards passes at the foot of a large forest of firs and larch trees, that entirely conceal the base of a chain of mountains which descend from the summit of the Brenner, called Spingeler. From thence the next post is Mittlewald, situated beyond the centre of the forest. Mittlewald is a small village, with a few scattered wooden cottages, in the nature of those belonging to the inhabitants of the High Alps.

THE road from Mittlewald to Mals is nearly the same as from the Barrier, yet there are, now and then, some agreeable openings, which offer to the eye romantic and picturesque views.

THE Eifach also adds greatly to the beauty of the scene; for, its motion being much more accelerated than in the vallies of Trent and Bolzano, its waves dash impetuously against prodigious masses of granite, and marble of various colours, which, checking its course, form a number of beautiful cascades. At some distance from the village of Mals is the church of Trens, dedicated to the Virgin, whither the inhabitants frequently perform pilgrimage. Not far from the church is situated, on a small eminence, the castle of Sprechenstein, which seems to be the key to the whole valley, from Brixen to Trens; one then crosses the Eifach, at the foot of the castle, which is a mile and a half from Sterzing, where we arrived late in the evening.

SECTION VI.

DESCRIPTION OF THE ENVIRONS OF THE CITY OF STERZING, AND OF THE VALLIES RIDNAUN
AND PFLERSCHER — EXCURSION TO THE GREAT GLACIER OF STUBEN — ITS
ELEVATION ABOVE THE LEVEL OF THE SEA — PASSAGE ACROSS
THE BRENNER — HEIGHT OF THAT MOUNTAIN —
ARRIVAL AT STEINACH.

IT being near ten when we arrived at Sterzing, I had only time to settle my journal, arrange the observations I had made since I left Botzen, and fix my plan for the next day. I had gained the most pleasing intelligence of the environs of that city, from a friend whom I had met at Verona, and who particularly mentioned the vallies of Ridnaun and Pflerscher as deserving notice, because they contained several different mines, and a great number of curious Alpine plants. He also informed me, that their direction was nearly from east to west, and that they were terminated by the great Glaciers of Hoher, Stuben, and Grindl Farnet, &c. Being so far instructed, my first care was to find a person well acquainted with the country, who could give me further information, and assist me in procuring a guide to conduct me to the nearest Glacier. I therefore addressed myself to the inn-keeper, who spoke both French and Italian, requesting him to get a person to attend me the next morning, on my intended excursion; upon which he introduced me to a neighbour, who, with all the appearance of a plain honest mountaineer, was well informed. He told me that he was a miner, and that he had not only worked himself in the mines, but that he had been appointed by government as an overseer to several. The knowledge and talents which I soon after found he possessed, convinced me that he had not deceived me.

I ASKED him whether he had ever seen the Glaciers which were in the environs of that city? He said, that he was perfectly well acquainted with them, having frequently been there; that he had also visited those of Savoy and Switzerland, having had occasion to cross the great St. Bernard, in his way to Geneva. He told me that he went there on business; but, on descending that tremendous mount, he had been tempted, not only to see a part of the Glaciers of Tzendy and Valpelaine, but also those of the valley of Chamonix, having taken the road leading to the Col of Balma, as being the nearest to Geneva. After this short introduction, which was delivered with great modesty, he invited me (in order to avoid interruption) to accompany him to his laboratory, which I

found

found in most excellent order. From thence he took me to his cabinet of natural history, which he, very properly, styled *A box of samples of the Tyrolese mountains*. One may easily conceive that I was all astonishment, not having the most distant idea of finding so good a collection; as it was not only extensive but well chosen, and arranged with taste. He had specimens of the most curious stones, chrystals, and minerals of the country: among the latter was a variety of silver ore, copper, native iron in grains, antimony, mercury, and chrystalized salt; besides fossils, petrifications, impressions of marine substances, plants, &c.

I WAS both delighted and amazed at meeting in a country, remote from the pursuits of literature and science, a man in so humble a situation, who was of so scientific a turn of mind, and of a sufficient judgment to form a collection that would not disgrace our greatest Naturalists. There is, however, a similar instance in a man whose name is Francis Pacard, residing in the valley of Chamouny, in Savoy, known by the appellation of *Guide to the Ladies*: for as the valley is surrounded by a number of Glaciers, which attract the curiosity of strangers, and are much resorted to in summer, several of the inhabitants make it their business to serve as guides. He is so perfectly illiterate that he cannot read; yet he has formed a collection of the different productions of the Pennine Alps, which he has regularly classed, and arranged with tolerable taste. When he is not employed as a guide, he follows his business, which is that of a farrier.

I HAVE always remarked, and believe it to be a received opinion, that mountaineers in general are particularly quick and intelligent, conceiving with ease whatever is taught them, and that they have a retentive memory.

ON quitting the cabinet of my Tyrolese Naturalist he offered to conduct me himself to any of the neighbouring Glaciers; at the same time recommending Stuben as being well worth seeing, extensive, easy of access, and considerably nearer than the others. I immediately accepted his offer, although at first I was fearful that business and want of time would have interrupted our plan. Having, however, settled my affairs, and removed the obstacles which appeared to be in the way, I decided on setting off the next morning by six. My guide, who seemed as eager as myself, went out soon after to order mules, &c.: I returned to the inn to collect whatever I thought might be necessary during our journey, viz. my BAROMETER, which I had fortunately preserved entire, a steel hammer, a bottle of spirits of nitre, and a compass. The night being uncommonly cold, although at the beginning of June, I found the eider-down, or covering on the bed, which is generally made use of in Germany, exceedingly comfortable; as also a stove, which they had not as yet discarded. The severity of the weather, at that time of the year, must be attributed to the Glaciers, which surround the city.

I WAS

I WAS awaked in the morning much earlier than I wished, by an uncommon noise occasioned by the country people passing through the city, in their way to the market-place, which is situated on the outside of the gates of Sterzing. My curiosity being roused, I got up just in time to see a number of carts or waggons pass, loaded with salt, from the city of Hall, which were drawn by oxen, shod like horses, except that, owing to the form of their feet, the iron was, of course, divided, which, added to their unwieldiness, made a most intolerable noise.

THE sun had not yet made its appearance in the valley, when I quitted the city, in order to visit its environs. Having reached the market-place, I found the people busily employed in erecting tents, tables, &c. at places assigned them by an officer, or constable, appointed to maintain order and regularity. The roads leading towards the city were thronged with the inhabitants of the neighbouring mountains, loaded with the produce of their industry, which they were bringing for sale; such as carpets, stuffs, cloths, threads, &c. so that it had much more the appearance of a fair than a common market-day. Others were themselves drawing small carts filled with corn and vegetables, their countenances expressive of jollity and good-humour; the whole forming one of the most interesting scenes I ever beheld.

As the singularity of their dress drew my attention, I must not omit giving a short sketch of it. Both men and women wear different-coloured, large, round hats, made exactly alike; although green seems to be the favourite colour, especially on festivals and gala-days: they ornament them with gold and silver lace, with the addition of tassels, &c. The men wear long, uncouth jackets, or waistcoats, of the same colour as their hats, made of coarse cloth, which they manufacture themselves.

THE girdle, or belt, is what they esteem most, next to the hat. I have really seen some remarkably curious, made of thick leather, decorated with small silver nails, formed into a variety of figures, or devices. As for the rest of their dress, it resembles the German, Swiss, &c.

THEY are in general tall and robust, and their countenances have great strength of expression. The women wear a kind of loose jacket, which they take off at pleasure, of the same colour also as their hats; so that, at some distance, it is difficult to distinguish the sex. Their corsets, of which they are particularly proud, are ornamented with gold fringe, ribbons, and black velvet. Their stockings are likewise very remarkable, being of an unusual length, seldom less than five feet. These they plait, or roll, with the greatest exactness; a custom, which, with the shortness of their petticoats, makes their legs appear to great disadvantage. I have been tempted thus to particularize their dress, as it is generally adopted by all the Tyrolese.

THE city of Sterzing is the seat of the provincial jurisdiction of the district of Eisach; for the county of Tyrol is divided into six districts, as I will hereafter explain. It was formerly known by the name of Vipitenum, or Fortia Castra, forming part of the Rhætian country. During the residence of the Tyrolese Counts at Inspruch, the city was well fortified; but, at present, there only remain its ditches, a few parapets, and its castle, where a small number of soldiers are garrisoned. Its situation is particularly pleasant, being seated on an eminence, which commands a fertile plain, where four vallies meet; but the Eisach, that crosses it, ceases to be navigable at Brixen. The silver, copper, and iron mines, which are worked in the environs of that city, give it a commercial appearance, although situated so high in the Alps. Their manufactures for swords, and various sorts of tools made of steel, are much admired. The inhabitants carry them to Germany, Italy, and France, to dispose of. The country also produces, in several places, a great quantity of corn, &c. which occasions a constant intercourse with the neighbours.

THE valley of Ridnaun, which is to the west of Sterzing, takes its name from the torrent that crosses it, and throws itself into the Eisach, at the foot of the castle of Sprechenstein. This valley extends nearly eight miles from south-east to north-west, and is terminated by the Glacier of Hoher, which is discernible from the environs of that city. It is well inhabited, and particularly fertile, for its vegetation extends to the foot of the Glacier. To the east of Sterzing is the valley of Pfitscher, which is in a south-west and north-east direction. It is watered by a torrent of the same name, which descends rapidly from the great Glaciers of Zint and Furtſchtagl. This valley is not so fertile as Ridnaun, but is as well inhabited. I shall not attempt to particularize the lithology of those vallies, not having had sufficient time to make any observations deserving notice. I can only add, that the lower range of mountains in the vicinity of Sterzing are composed of calcareous stones, of different species, with their strata, inclining to the south. The *Calcareus Scintillans Griseus*, No. 42, is the most common; although there are some entirely composed of large banks, or beds, of white or dark-grey marble, sometimes intermixed with strata of calcareous stone, nearly vertical, which Monsieur Bomare terms *Lapis fœtidus*, from its emitting a disagreeable smell when rubbed or broken. The upper range of mountains, whose summits are scarcely discernible, are mostly granite, or a species of porphyry, of a reddish-brown colour, or *Porphyri Rubens*, No. 99; known to the Italians by the name of Brocatello. What surprized me most, in the appearance of those primordial peaks, was their being rugged and furrowed, as if they had been calcareous. I could not at first account for that phenomenon; but I had soon an opportunity of viewing them nearer, and found that the major part of those mountains were covered with large strata of calcareous stone.

I AM indebted to my guide for first suggesting to me the idea of visiting them, and his remarks led me to make those observations which have since been confirmed by Monsieur De Dolomieu. I observed, that the calcareous strata in general inclined towards the south, forming different angles with the horizon. I was sorry that want of time prevented my convincing myself whether those stones contained any marine substances. My guide assured me that they did; but I will not attempt to affirm from report what is of so much consequence. It is time I should leave this digression, and quit Sterzing. I returned in haste to the inn, where I found my guide and his equipage (for he had procured me an excellent mule) waiting for my arrival. We had at first some doubts concerning the weather, the clouds appearing suspicious; but they, fortunately for us, soon dissipated, and we prepared ourselves to set off. Having slung my barometer in a kind of shoulder-belt, for fear of accidents, we directed our course westward, leaving on the left the torrent Faller, whose noise was heard at an amazing distance, rumbling impetuously at the bottom of a precipice. We soon gained the small hamlet of Raminge, which is situated on the declivity of the mountain: we proposed crossing it, to shorten our way. The torrent Faller, having, in several places, deepened upwards of three hundred feet below the surface of the earth, had caused much of the ground to give way, leaving large gaps, or openings, where one could with ease discover the different strata of the mountain. I observed that the lowest strata was more than eighty feet in thickness, of a species of mill stone, or *cos molaris*: above that was another, upwards of twenty feet, composed of a coarse black sand, intermixed with several pieces of quartz, feldspath, granite, and marble, besides pebbles of different kinds. The next stratum was a species of sandy slate, or *cos fissilis particulis minoribus spe. 142*, which extended to the vegetable stratum. This spot opens a wide field for the observations of a Geologist; particularly if fossils and marine substances can be discovered.

ON leaving Raminge, we continued our course by the side of a large forest of firs, where we found several Alpine plants, scattered here and there; viz. the charming *Centaurea Montana*, *Soldanella Alpina*, *Veronica Alpina*, and the *Horminum Pyrenaicum*. The last I have never been able to meet with on any of the mountains of Savoy or Switzerland. There was also a great variety of other plants, whose diversified colours attracted our notice. After a very laborious ascent, we reached at last the summit of the mountain, which was entirely covered with resinous trees; such as larch, firs, wild pines, &c. We then descended into the gloomy valley of Fallming, which is much more wild and agrestic than the one we had crossed in our way thither. From thence we followed the course of another large torrent, which takes its source at the foot of mount Taffer. The range of mountains on the left, which are of a prodigious height, were mostly formed of different sorts of compound stones, or *lapides compositi*: whilst those on the

the right, which are not so elevated, were nearly calcareous, or a species of schistus, which effervesces with acids. We were obliged to dismount and lead our mules the whole way, owing to the badness of the roads.

AFTER much fatigue we arrived in the valley of Pflerscher, which is nearly in a parallel direction with that of Ridnaun. Its extension is about six miles, containing several different mines. Those of silver, although not reckoned the most productive, amply repay government for the expence of working them. This valley offers a similar example to that of Val de Mont-Joie, mentioned by Monsieur de Saussure, chap. xxvi. vol. iii. of his Voyage in the Alps: for the torrent Pflerscher, which crosses the valley, makes a total separation between the primordial and secondary mountains.

THOSE which are towards the north, being mostly composed of granite, or rock stone, of different kinds, have their summits perfectly bare and rugged, resembling those of the secondary mountains, when particularly elevated. Whilst, on the contrary, those that are in a southern direction are, for the most part, calcareous or schistus, and effervesce with acids; but their summits are covered with trees and meadows.

ALTHOUGH we had met with many difficulties near the torrent of Fallming, we arrived before twelve at the village of Pflersch, which is the principal town in the valley. The houses resemble those of Switzerland, being built of wood, with several galleries one above the other, which nearly surround the building; but with all the neatness, and convenience, analogous to the comfortable appearance of the inhabitants, who, without affluence, live in great ease: for I did not discover in the whole valley an individual who appeared in want; or any of those miserable objects who are the emblems of wretchedness and woe, so frequently met with in countries where the humble cottage is crushed beneath the weight of columns and pedestals, which serve to ornament the stately edifices of the rich. Happy people! Your felicity will be durable, since it depends on the integrity and honesty of your hearts, and the purity of your morals, guarded by the justice of your laws, and the lenity with which they are administered!

It is certain that a country apparently poor contains less real misery than one which, at first view, appears more opulent: for, in the first, wealth being more equally divided, its inhabitants of course preserve their morals untainted, and retain that degree of firmness and steadiness which is characteristic of man in his natural state; whilst the inferior class of the second, owing to the inequality of riches, are frequently obliged to bend to the wishes of the opulent, who often avail themselves of their superiority, to corrupt their innocence and integrity. The village of Pflersch, where we took some refreshment, is seated at the foot of the high primordial mountains, Tributaun, Eifen, and Roth. From thence we proceeded on foot, being under the necessity of leaving our mules, on account of the badness of the road, towards Lower Stein, which is a small hamlet,
situated

situated at the bottom of a high mountain, composed of granite, and covered with extensive banks of phosphorus marble. On the top of it is built Upper Stein, which, from that eminence, extends apparently to the foot of the Glacier, although there is nearly the difference of a mile and a half; for distances in a mountainous country deceive one considerably, owing to the rarefaction of the air. Opposite to us was a steep mountain, composed of a reddish porphyry, spotted with black and yellow, of which the strata were perfectly discernible to be in a parallel direction. We now began to find a scarcity of vegetation, there being only a few yew-trees scattered here and there, owing to our elevated situation, and the intense cold occasioned by the vast heaps of ice with which we were surrounded. This spot is, without doubt, the most wild and barren of any I have ever seen in the Alps. After great fatigue we reached the foot of the Glacier, where the torrent Pflersch flows rapidly from beneath a cavern of ice, forming nearly half an elliptical figure; the entrance being nineteen feet wide, and the height thirty. The pyramids of ice, which surrounded the cave, were upwards of fifty feet high, rising majestically, one behind the other, in the form of an amphitheatre, extending to the top of the Glacier, which is two hundred and fifty feet above the source of the torrent. My guide informed me that, in the midst of summer, the cavern is more extensive, presenting a most awful and magnificent scene.

HAVING satisfied my curiosity at the foot of the Glacier, and taken its elevation, which I found to be 4692 feet above the level of the sea: I proposed to my guide to fix on a spot from which we might discern more of its surface. He immediately pointed out a large rock of granite, saying, that from thence we should have an extensive view; but that its access was particularly difficult. Accustomed, however, as we both were to exploring, not only mountains but Glaciers, we determined to proceed. After some labour and fatigue we reached a grass-plot remarkably smooth and slippery (it being a kind of grass peculiar to elevated situations). From thence we soon got on the snow, upon which we were obliged to walk upwards of an hour, with much difficulty; for, in several places, it was more than half thawed; and in others so extremely dangerous, that, had our feet given way, we must inevitably have fallen into a dreadful precipice, formed by the torrent Pflerscher, and must have been cut to pieces before we had reached the bottom. Fortunately our cramp irons preserved our lives, and assisted us in escaping that misfortune.

THE place we had chosen, and with such difficulty attained, was 300 feet above the source of the torrent, and 4992 above the level of the sea. Our trouble was, however, fully repaid by the noble and extensive view we had of the Glacier, whose direction appeared to be from north-east to south-west; but it was impossible to determine to a certainty its precise extent. The guide, who had been there frequently, and had seen the
greatest

greatest part of it, assured me, that it was nearly fifteen miles from east to west. A chain of rugged mountains composed of granite, of which some were partly covered with a kind of phosphorous calcareous stone, seemed to cross the middle of the Glacier from north to south.

THE surface of the Glacier was extremely uneven, and parted in many places, forming large gaps, or crevices, of upwards of six feet. Immense heaps of ice also presented themselves to the eye, in various shapes, of beautiful pyramids, of a considerable height, which, reflecting the beams of the sun, appeared of a fine azure blue, forming a pleasing contrast with the aridity of the rocks which surrounded them.

WE were obliged to quit this spot sooner than I wished; for the mountains, which served as conductors to the clouds, attracting them imperceptibly, would in a short time have covered not only the valley of ice, which was below, but the whole of our way back, and have rendered our return both difficult and dangerous.

THE cold was excessive for that time of the year, although we were 432 feet less elevated than the Glaciers des Bois, near the valley of Chamouni; but I attributed it to the vast quantities of ice, which abound more in the Rhætian Alps, than in the Pennine Alps; for, in the vicinity of these Glaciers, there is not the least appearance of vegetation. In about three quarters of an hour we quitted this solitary spot, which is really a picture of desolation and horror. I could neither discover plants, shrubs, or animals, or insects, except two butterflies, at too great a distance for me to judge of their species.

THE Rhododendron Hirsutum was the first shrub we met with in our way back; but I saw several species of curious moss. At two miles from thence we entered a forest of firs, which extended to the torrent Kor, the banks of which led us to Pflersch, where we arrived fatigued, although perfectly satisfied with our excursion. The environs of that village appeared as cheerful and agreeable, as the country we had left was arid and solitary.

AFTER resting a short time we mounted our mules (which we had left there as we went), and continued our course towards the village of Gossensass, and got into the high road, leaving, unseen, the mines that are in the valley of Pflerscher, intending to sleep at Steinach, eighteen miles from thence, as it was too late to admit of that delay. My guide accompanied me to Brenner, a small village, situated near the summit of the mount, where I met my horse, which had been sent from Sterzing.

THE ascent of the Brenner from the last-mentioned town is excessively difficult, and the road so contracted, by the high and tremendous rocks on each side, that it has been found necessary to construct several bridges on the Eisach, in order frequently to cross that river.

THERE are some mineral springs two miles from the summit of the mountain, which are only resorted to by the neighbouring inhabitants.

I FOUND much of the adjacent country covered with snow, and particularly the peaks that border the road, which I was not surprized at, when I had taken its elevation, which I effected before my guide left me, as he anxiously requested to be present.

I TOOK the elevation of the mount from opposite the source of the Eifach, and found that it was 3896 feet and 5-6ths above the city of Botzen, 417 above the source of the Pflerscher (which is at the foot of the Glacier of Stuben), and 5109 above the level of the sea. I will not, however, vouch for the exactness of the measure of those elevations, although I endeavoured to take them with the greatest accuracy; but, owing to my having only one instrument proper for the undertaking, and not any one to make observations at the same time, in any determined spot, they may probably be liable to some small incorrectness.

THERE are few trees on the Brenner, except a few yews and stunted pines; but the pasturage is rich, although its situation will not admit of the growth of corn.

A SMALL plain, of a mile and a half in length, and nearly one in width, bordered on each side by huge arid rocks, of which parts are continually covered with snow, forms the summit of the mountain. The major part of those rocks is composed of granite, or rock stone, compounded of glimmer, quartz, and spar.

THIS plain, or more properly valley, is excessively rural and pleasant, with a few scattered cottages, which put me in mind of Chamouni. On the left of the valley is a beautiful cascade. This is the source of the Eifach, which, after joining the Adige at Botzen, throws itself into the Adriatic sea. Near this cascade is the source of the river Sill, which falls into the Inn, and from thence into the Danube; so that this valley serves as a boundary and division to those two rivers.

HAVING crossed the torrent Weisen we began to descend rapidly towards Gries, which is the first village from the summit of mount Brenner, leading to Inspruck. On the road I passed a column, or pedestal, erected in honour of Charlemagne and his brother Ferdinand, who had not met since the departure of that Emperor for Africa, till he returned victorious in the year 1545; but, owing to the darkness of the evening, I was prevented seeing both the inscription and bas-reliefs, which I was told were curious.

I WAS forced to hasten towards Steinach, where I proposed sleeping, and where I arrived perfectly safe, although excessively fatigued, having travelled that day on foot and horse-back, through bad roads, between fifty and sixty miles.



C. Apostool Salp.

The SUMMIT of the BRENNER MOUNTAIN.

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SECTION VII.

DEPARTURE FROM STEINACH — ARRIVAL AT INSPRUCK — GENERAL OBSERVATIONS ON
 THE ORIGIN AND FORM OF GOVERNMENT OF THE COUNTY OF TYROL —
 DESCRIPTION OF THAT COUNTRY — ITS EXTENT, MOUNTAINS,
 AND DIFFERENT PRODUCTIONS — REMARKS ON THE
 MANNERS AND CUSTOMS OF THE TYROLESE.

THE town or borough of Steinach is the seat of government of the district of the same name, which only contains four vallies. Its situation is as pleasant, and the country as well cultivated, as Sterzing and its environs, although much more elevated.

THE town is at the confluence of two rivers, viz. the Sill, which takes its source, as we have seen, on the top of mount Brenner, and the Gschniz, which rises at the foot of Spiz-fiming, a high mountain, situated to the north of the Glacier Stuben. This river crosses a valley of the same name, which is populous and rich in pasturage. Its course extends from north-east to south-west.

STEINACH is seated nearly in the centre of the highest mountains in the county of Tyrol. Towards the east, is seen, rising majestically from the midst of a long chain of Glaciers, extending from north-east to south-west, the great and lofty Gefrone, which seems to vie in point of height with mount Blanc. This enormous mountain of granite is continually covered with snow, and is one of the highest peaks in the Rhætian Alps. The chain of Glaciers, which I have just mentioned, are known by the name of Duxer, and extend upwards of ten miles. The inhabitants of the vallies, situated at the foot of these tremendous heaps of ice, occupy and support themselves chiefly in searching for crystals of different species, which are found there in great abundance. I have seen some that resemble *Spath-fluores octaëdre*, one inch in diameter, of a bright red colour, as also rock crystals, or *chrystallus montana*, that weighed upwards of four pounds.

TOWARDS the west of Steinach rises mount Habich-spiz, which although not so high as the Gefrone, is yet continually covered with snow. Not far from its summit, on one of its fractured sides, is seen a small Glacier; but the name I could not learn. In a south-west direction stands mount Tributaun, one of the most elevated peaks belonging to that chain of mountains which form the Great Brenner.

I SHALL

I SHALL forbear to particularize a number of others, which, although they seem to serve as a base to those I have already mentioned, are, notwithstanding, of a prodigious height.

I WILL only add some flight observations on the direction of the vallies, situated north and south of the Brenner, as also on the relative height of the mountains on each side of it. I have observed in general that most of the small vallies towards the north extend from north to south, and from south to north; but the large ones from north-east to south-west: whilst, towards the south, the large, as well as the small ones, take a contrary direction. The different direction, and appearances of the mountains, are also very conspicuous; for the highest and most rugged peaks, and the most extensive Glaciers, are north of the Brenner. Those towards the south are not so high, containing mostly a great quantity of fossils and impressions of marine substances: they are also, in general, cultivated and wooded to the top.

I PARTICULARLY recommend to the geologist to bestow some attention on the above observations, and also on the following, as they may tend to induce naturalists, who propose visiting those mountains, to observe them more attentively than they might otherwise be led to do, as by those means they may be enabled to throw fresh light on the study of geology. First, I found that the part of the primordial chain of mountains in the Rhetian Alps which I visited is covered with large calcareous beds, or strata, inclining from north-east to south-west. — Secondly, That the secondary mountains contain, in several places, beds of white or grey phosphorous marble, of a species which does not readily effervesce with acids, except when reduced to powder. — Thirdly, That there also exist in the vicinity of mount Baldo calcareous mountains, filled with marine substances of different species, supported, as it were, by large beds of marble, of calcareous stone, of a fine grain, in which I did not discover any marine bodies. — Fourthly, That there are several hot mineral springs between St. Michael and the summit of mount Brenner, the major part of which is sulphureous. — Fifthly, That on the banks, or beds of some of the torrents, which take their source in the High Alps, are found fragments of stones, resembling lava, or basalt, which brings it nearly to a certainty that there have formerly been volcanos in some part of those Alps.

I QUITTED Steinach after some few hours repose; and, as I arose betimes, decided on walking to Schonberg, which is the next post, or else to proceed to the city of Innsbruck, being induced so to do by the beauty of the morning, and the serenity of the atmosphere, accompanied with a refreshing breeze after a gentle rain, which had fallen in the night; and, from the goodness of the road, I concluded it would not be fatiguing; more especially as it was on a gradual descent to the city. I, therefore, set off before the
early

early hours of sun-rise had passed away. The morning spread upon the mountains those velvet lights, which soon after took a more vivid hue, and the vapours, forming a transparent medium, began to discover through their thinner veil a fine purple tint, which had overspread the tops of the mountains; and is one of the most pleasing hues that beautify those lofty stations. The opposite peaks, being covered with snow, darted, as it were, by the reflection of the sun-beams, sparks of fire of variegated colours. All nature seemed to rejoice at the return of that glorious luminary. The aerial songsters had already announced his approach by their delightful notes, and the rural inhabitants, by busy preparations for their daily labour. As I approached Mattrey, a small town at some distance from Steinach, the country began to unfold fresh beauties; the hawthorn, every where in bloom, diffused the most fragrant odor on whatever surrounded it. I was pleased with the bleating of the lambs, who, capering, followed their dams to the neighbouring meadows, which are particularly beautiful, and run shelving from the adjacent hills that border the road. Flocks of sheep were every where hanging on their green steeps, and herds of cattle occupied the lower grounds.

THE cows also, by their lowing, seemed to invite the milkmaid, in order to repay her cares during the winter. To add to the pleasure of the scene, the rural and harmonious sounds of the oser flute, made use of by the Tyrolese shepherds, were heard from the neighbouring mountains, as they tended their flocks. Those flutes are of a peculiar construction; being no more than one inch and a half in diameter, and five or six feet in length, conveying across the country, through the craggy openings of the adjacent rocks, the most enchanting sounds. Every thing around breathed an air so calm, and inspired such an idea of being sequestered from the cares and commerce of life, that those scenes afforded me a thousand charms; and I felt as if it had been the first time of my enjoying such happiness and tranquillity: though, accustomed, as I have been, to a country similar to this, I had frequently experienced the same sensations. But the beauties of nature never satiate those who know properly how to value them. Filled with admiration at the picturesque and enchanting views with which I was surrounded, I advanced much quicker than I imagined, and found myself imperceptibly at Mattrey; which, I have already observed, is a small town, built on the spot where formerly stood the ancient city of Matreium. This city was destroyed by the Bavarians about the year 800. The town of Mattrey is seated on the banks of the Sill, which flows with great rapidity. It is sheltered on the opposite side by a huge calcareous mountain, which is remarkably steep from its very summit, and does not contain any marine substances. Soon after quitting that town, I crossed the small torrent of Langs, whose ferruginous water tinges of a deep yellow the stones which form the bed of the river, as is frequently the case in the Alps. On the right I passed the road which leads to the city of Hall, on the river

Inn. From thence I proceeded to the next post, which is Upper Schonberg, to distinguish it from another village of the same name at the foot of the mountain. In the neighbourhood of that village the prospect is picturesque and beautiful, owing to its delightful and elevated situation, being seated between the rivers Sill and Stubay, which meet under the ancient castle of Schonberg, so that the view takes in three vallies. The valley of Stubay is on the left, and takes its name from a river that crosses it, which rises at the foot of Bock-Kogl, a tremendous peak, scarcely inferior to mount Geforne. It is exactly opposite to it, in the same latitude, and also surrounded by extensive Glaciers; among which are the Glamer and the Lifniger, besides several whose names I am unacquainted with.

THIS valley extends fourteen miles, is populous and rich in wood and pasturage, and screened on each side by a chain of elevated mountains. From Schonberg the descent is rapid; but a zigzag road is contrived, that, in several places, is cut in the rock, which is of a lamellated texture, of different species: the greatest part, however, seemed to be a kind of horn-stone, which Wallerius terms *Corneus fissilis mollior spe. 143*.

AT the foot of the mountain, on which Schonberg stands, I crossed the river Stubay, on Zoll bridge, and then followed the course of the Sill, till I got near the castle of Sonenberg, which is seated between the river and the road. From this spot one has an extensive and pleasing prospect of the fertile and chearful valley of Inn, in which is built the city of Inspruck. I soon found another descent, nearly as rapid as the first, of more than two miles, which ends at the convent of Wilteau, composed of a Chapter of regular Canons; the Abbot of which is mitred, and a member of the States of Tyrol. The building is noble and extensive, and merits the notice of travellers. It is built where formerly stood the ancient city of Veldidena, which belonged to the Vennonnes, a people of Rhæti (Wiltan, or Weltina, being only a corruption of Veldidena).

THE convent is noted for possessing a number of antiquities; and its library is not only extensive but valuable, containing several curious manuscripts. One mile from thence is the city of Inspruck, where I arrived in good time, perfectly satisfied with my pedestrian excursion, which procured me the opportunity of observing many things that would have escaped my attention in a carriage, or even on horseback.

PRIOR to my description of Inspruck I shall take notice of the different Alpine plants I met with in my way hither from the summit of the Brenner, and give some slight observations which I made on the origin and form of Government of the county of Tyrol.

IN the environs of Gries, which is the first village on descending the mount, I found the Valeriana Montana, Arnica Scorpioides, Pedicularis Recutita, Centaurea Montana, and the Astragene Alpina; and, as I approached Steinach, the Lonicera Alpigena, Daphne Ceneorum, Daphne Alpina, Isopyrum Aquilegioides, and the Bartzia Alpina; near
Schonberg

Schonberg the Valeriana Sexatilis, Pædorata Bonarota, Genista Germanica, Tozzia Alpina, and the Clematis Recta; in the vicinity of Inspruck, the Pedicularis Comosa, Prenanthes Purpurea, Anemone Silvestris, Clematis Integrifolia, and the Astragalus Campestris, &c. The county of Tyrol formerly made part of the Rhætian country; but, having, towards the sixth century, passed under the dominion of the Dukes of Bavaria, it was then considered as being comprehended in the Norica: nevertheless, the country, situated on the other side of the Adige, still belonged to the Lombards, who were, after several cruel wars, obliged to cede it to the Bavarians. But, to give a clearer idea of the history of that country, it will be necessary to trace it from an earlier period.

At the commencement of our era, Germany was divided into several petty States, subject to their respective chiefs; but, in consequence of the fall of the Roman Empire, they divided themselves into six distinct nations, viz. the Swabians and the Germans formed one division; the Franconians, the Frisii, the Saxons, the Turingians, and the Bavarians, who possessed the Norican country and a part of the Rhætian, formed the other five.

THE Franconians having, in the course of time, rendered themselves masters of the Gauls, under the command of their King Clovis, they subdued the other five nations, and became the only possessors of Germany; therefore, in the reign of Charlemagne, that large tract of country formed only one State, considered as an appendage to the Monarchy of the Franks.

CHARLEMAGNE, being elected Emperor of the West in 800, conferred, soon after, the dignity of King of Germany on his son Louis I. with the consent of the States; but Louis, before his death, made an equal division of it between his sons, which occasioned vast trouble and confusion in the kingdom; and tranquillity was not restored till the peace of Verdun, in 843: in consequence of which Louis the German obtained that part of the kingdom which extends to the Rhine, and was acknowledged King. Since the above epoch, it has been considered as a separate and independent State.

LOUIS the Younger, his son, having shared with his two brothers his father's dominion, retained, for his part, the kingdom of Burgundy; Charles, surnamed *Le Gros*, had Germany; and Carloman, the kingdom of Bavaria. Louis and Carloman dying soon after, Charles reunited, in his person, the right to all Charlemagne's possessions; but, by his ill behaviour, and his turbulent and tyrannic disposition, he incensed both the nobles and people at large, who deposed him in 880, and elected, as King of Germany, Arnould, a natural son of Carloman's, who was crowned Emperor in 887. After the death of Louis IV. surnamed the infant, son to Arnould, they elected, in 911, Henry of Saxe, son to Otton. From that time is traced the origin of the Dutchies of Swabia, Franconia, Bavaria,

Bavaria, or Norica; the last (as I have already observed) comprehended nearly the whole of the Rætian country.

THE county of Tyrol, although understood as forming part of that province, had, nevertheless, its particular Seigneurs and Counts, who were absolute Sovereigns on their own lands; being only under an obligation to provide, at their own expence, a certain number of troops, in case Bavaria should be attacked; or the wants of the State should require it. Those Seigneurs were the Counts of Tyrol, Goerz, Eppan, Welten, Castelbarco, and Arco. The Counts of Andechs and Bavaria, possessed, as absolute Sovereigns, the city of Inspruck and Meran, besides other lands in the vallies of Venosta and Sole.

THE Emperor Frederick I. having conferred on these Counts the dignity of Duke, Berthold III. was the first who enjoyed the title. His grandson, Otton II. dying in 1248 without male issue, his possessions were divided, and the major part of those that were situated in the valley of Venosta, devolved to the Counts Albert of Tyrol, who were of the same family as those of Gaers. At the death of Albert, in 1253, Menard III. Count of Gaers, and Gebhard, Count of Hirschfeld, divided the county between them; but, in 1284, Gebhard ceded his part to the Count of Gaerz, for 400 marks. Menard IV. having been created Prince of Gaerz in 1286 by the Emperor Rodolphus I. who also added the country of Carinthia to his possessions; he relinquished his title, and right to the county of Tyrol, to his son Henry, who ceded it to his daughter Margaret, and she bequeathed it, with all her pretensions, in 1363, to her three uncles, Rodolphus, Albert, and Leopald, Duke of Austria, which was confirmed to them in 1364 by the Emperor Charles IV.

THEY at first met with some opposition from the Duke of Bavaria; but the Emperor obliging him to accept of 116,000 golden florins of the house of Austria, and relinquish his pretensions to the county, he was forced to acquiesce.

TYROL having thus passed into the possession of Austria, several of the Princes of that house became sovereigns of it: the last, who was Sigismund Francis, dying in 1665, the Emperor Leopold went in person to the diet of Inspruck to receive the oaths of allegiance of the States; and, since that epoch, the Emperors have taken the title of Count, or Prince of Tyrol.

THIS principality, or county, is very extensive, although nearly covered with mountains and glaciers. It is included in the Austrian circle. Its extent from east to west is two hundred and twenty English miles; and from north to south one hundred and forty. It is bounded on the north by the dutchy of Bavaria, on the east by the archbishopric of Salzbourg and part of Carinthia; on the west and south by the State of Venice, the Grissons country, the petty state of Voralberg, and the circle of Swabia.

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I HAVE included, as belonging to the county, the Bishopricks of Trent and Brixen, the possessions of the Teutonic order, and of the Princes of Dietrichstein; because they are not only allies, but under the protection of the county; and in consequence of which they have a seat and vote at the different diets held at Inspruck, contributing also towards the taxes and exigences of the State.

THE most considerable peaks between the primordial chains of mountains that cross the county are, on the south of Inspruck, the Brenner, or Brenner-Beg, otherwise Burning-Hill, so called by the Tyrolese, on account of its immense height, which by attracting the electric fluid, occasions, in summer, most tremendous storms.

ON the west are the mounts Kaifer, Arula, and Rhætico. Towards the north the Verner, Sallstein, and Rose; and towards the east, on the confines of the State of Venice, the mounts Selio.

THE greatest part of those mountains are continually covered with snow, exhibiting large Glaciers, which fill the whole of the highest vallies. Those which are the most extensive are the Guckler, Schalzer, Rosner, Stuben, Duxer, and Teurferer.

IN the neighbourhood of these Glaciers are found quantities of curious gems, or precious stones, viz. rock chrystals of different colours, garnets, rubies, amethysts, emeralds, agats, and cornelians, besides several other vitrescent stones.

THE inferior range of mountains contain a variety of silver, copper, lead, mercury, iron, alum, and sulphur mines, that are worked with great success. There is also a gold mine in the valley of Zill, which, although not particularly rich in the ore, yet produces more than sufficient to defray the expence of working it. The copper of Tyrol is much esteemed, being deemed remarkably good and easy to work; which accounts for their having a number of latten or brass manufactories. Their salt mines are also valuable, abundant, and curious; a description of which I will give hereafter.

THERE are a number of hot baths and mineral springs; the most frequented are those which are situated in the valley of Volder, Vellrain, and Egerdach, in the vicinity of Inspruck, as also those which are in the valley of Velten, and near Meran; those of Sexten, in the valley of Puster, and those of Vinschgau, besides others of less note.

THIS country, being very mountainous, might naturally be supposed barren and uncultivated; but it is quite the reverse, for the soil yields in general every thing that is useful and luxurious. The vallies produce vast quantities of corn, &c. Those which are situated to the south furnish the inhabitants with various sorts of fruits peculiar to the warmest climate of Italy, viz. oranges, lemons, olives, grapes, pomegranates, almonds, chestnuts, &c.: hemp and flax grow there likewise in great abundance; and the culture of mulberry-trees is general where the climate will admit of it.

THE mountains are rich in pasturage, and abound with wood of different sorts. They breed great quantities of cattle; and Vinschgau is particularly famous for horses, which are much admired, although of a middle size.

THE extensive and thick forests, which cover the secondary range of mountains and the base of the primordial, are filled with wild beasts; such as bears, wolves, foxes, &c.

THE chamois, or wild goat, and the bouquetin, or *hircus fylvestris*, which is another species of goat, not quite as large, of a reddish colour, but remarkably swift, and difficult to catch, as they leap from rock to rock with the greatest agility, and inhabit the highest chain of mountains, which serve as a support to the Glaciers. There is also another animal peculiar to these mountains, called steinbocks, or rock goats (*rupicaprae*), which are excellent to eat.

THE greatest part of Tyrol is convenient for hunting and fishing, as it contains abundance of game; and few countries can boast of finer rivers, or better stocked with fish.

MOST of these rivers or torrents bring with them from the different mountains dust, or grains of gold, in small quantities.

THIS country contains twelve cities, eleven boroughs or market-towns, eight hundred and ninety-four villages, two bishopricks, and one hundred and forty-two seigneuries, or particular jurisdictions.

BEFORE I enter on a description of their modern form of government, I must give a sketch of their character, customs, and manners.

THE Tyrolese in general, as well as most of the inhabitants of the Alps, are not opulent, yet there are scarcely any poor among them. I have travelled through several of their vallies, which extend upwards of ten miles, and have not met with the least appearance of wretchedness.

EACH individual cultivates his own land; and when that is not sufficient for the maintenance of his family, he has recourse to that industry and activity which is natural to them all; and endeavours to procure work in the mines, or different manufactories; if not successful, they quit Tyrol in the quality of hawkers, and convey into other countries the produce of their own.

SUCH are the little pleasurable barterers of life, when life is governed by simplicity alone, and the estimation in which objects are held is only proportioned to their real utility.

THEY are tall, strong, and robust, as mountaineers are in general; remarkably chearful, with great mildness and honesty of character; but keen, with an uncommon share of natural understanding. They are Roman Catholics, and excessively devout, placing not only in the roads, but on their habitations, a number of images, according to the forms
of





C. Spurgeon del.

THE VERNER MOUNTAINS, as seen from INSPRUCK.

Published as the New Series for 1872, by T. H. G. Egerton. Whitcomb, for the Author.

Oct. 1872

of their religion; yet the generality of them are not bigots, for they appear to esteem indiscriminately all strangers who visit them, without attending to their different opinions on religion: like most mountaineers, they are particularly attached to their Prince and to their country.

IN short, whether we consider the inhabitants of this part of the world, or the country itself, a traveller will not find it easy perhaps to visit any spot where more circumstances concur to gratify a love of natural history, to enlarge the mind or to interest the feelings.



SECTION VIII.

CONTINUATION OF THE FORM OF THE TYROLESE GOVERNMENT—DESCRIPTION OF INSBRUCK
AND THE EXTENSIVE VALLEY OF INN.

ALTHOUGH the county of Tyrol be considered in the general division of Germany as included in the Austrian circle; it is proper to observe, that it has laws and customs peculiar to itself, totally different from the rest of the provinces belonging to that circle.

ALL affairs relating to the State are transacted at the Diet held at Inspruck, which is assembled whenever it is deemed necessary. The Diet is composed of deputies or members belonging to the four orders or classes which represent the nation; consisting of the church, the noblesse, the tiers etats, or citizens, and the peasants. They are chosen from among the six districts into which the county is divided, viz. the lower valley of Inn, the upper valley of the same name, the district of Vinschgau, that of the Adige, of the Eisach, the valley of Puster on the confines of Italy.

THE Diet, when assembled, has a right to deliberate on whatever relates to the general good of the county; and has also the power of levying taxes, &c. When the Prince, or Sovereign, in time of war, finds it necessary to lay any extra imposts on the people, he applies directly to the Diet; and, each time that supplies are granted him, he makes a kind of acknowledgment, or declaration, that it is without prejudice to the privileges of the county.

THE Diet also has the power of raising troops when the States of Tyrol are in danger of being attacked. That province enjoys several privileges and exemptions which their sovereigns have never attempted to infringe, the people having amply deserved them, by their courage and steady attachment to the house of Austria.

IN time of war they all bear arms, and themselves guard their defiles. The French, although superior in numbers, and commanded by most excellent officers, experienced a severe repulse from the Tyrolese at the beginning of the present century: for they defended the different passes of the Tridentine Alps with the greatest bravery, and prevented the enemy from entering Italy that way, as they proposed doing. The French lost also vast numbers of their troops near the city of Trent.

THE States furnish one regiment, which bears the name of the county: half of which is garrisoned at Inspruck; the other half does duty with the Austrian troops.

THE

THE chief, or head of the Diet, takes the title of *Prefect*, who ought, according to the laws of the county, to be elected by the representatives of the four estates, from among the clergy or nobles; but the Bishops of Trent, or Brixen, occupy that dignity alternately.

THE taxes, or imposts, which are levied in the county, as also the sums arising from the produce of the different mines belonging to the Sovereign, are paid at the Receiver-general's office in the Chancery, which is a large building, composed of several distinct petty offices.

THIS province grants annually 80,000 florins to Austria, for the maintenance of the army.

THE city of Inspruck, or Ænipontum, is the capital of Tyrol, pleasantly situated on the river Inn, which crosses it, and gives it a lively appearance. It is not extensive, but well built. Its suburbs, which are considerably larger than the city, are uniform; the streets wide, and the houses both handsome and convenient. Its elevation above the level of the sea is 1,410 feet.

As Inspruck is the seat of the presentation of the Aulic Chamber, and where all public affairs, relating to the High and Interior Austria, are revised: it is populous, and particularly cheerful during the meeting of the Diet.

THE Chamber of Finance, which was formerly a palace belonging to the ancient counts of Tyrol, termed by the people, the house with the *golden roof*, because the lead which covers it is gilt, deserves notice. It was built about the fifteenth century by Frederick, Duke of Austria.

IN the garden belonging to the above palace is a beautiful equestrian figure, in bronze, much larger than life, representing the Archduke Leopold. The horse is in the attitude of leaping, and is only supported on his hind feet.

THE Church of the order of Cordeliers, which was also built in the fifteenth century by the Emperor Ferdinand I. is deserving the attention of travellers. It contains a noble and superb Mausoleum of white marble, erected in honour of the Emperor Maximilian I. with various ornaments and bas-reliefs, well executed, expressive of the courageous exploits of that Prince. There are also a number of statues representing the most celebrated persons of both sexes belonging to the house of Austria. There is another mausoleum in the same church, simple, but worthy remark, built by the Emperor Ferdinand I. for his wife Philippina Welfer. The various gold and silver ornaments which have been given to that church by individuals is astonishing: among other rich gifts, is the figure of the Archduke Joseph, in gold, as large as a new-born infant, a donation of the Empress Maria Theresa, immediately after his birth, in 1741.

THERE are several other public edifices that merit attention, the New Palace in particular, which has been lately repaired, belonging to the aunt of the present King of Hungary, and sister to the late Emperor Leopold.

THE State House and the Regent's Palace are magnificent. The Religious House belonging to the Canonesses, instituted by the Empress Maria Theresa, after the death of her husband Francis I. the Opera-House, the grand Manege, or Riding-House, and the Arsenal ought not to pass unnoticed.

THIS city cannot boast of its great antiquity; for, in 1234, it was only a large borough. Otto I. gave it the rights of a city, and granted most of the privileges it now enjoys: the city of Meran, in the valley of Venosta, being till then the capital.

THE University, which bears the name of Cæsarea Leopoldina, was built by the Emperor Leopold I. in 1672; but Austria is indebted to Maria Theresa (who may literally be styled the patroness of arts and learning), for the rapid progress they made in that Archduchy; as it must be attributed to the great encouragement they received from her. She formed the library of Inspruck, and caused the books that were in the castle of Ambras (which were numerous, and consisted of several valuable manuscripts) to be removed to that university. In order to enlarge the collection, and make it still more complete, several were sent from the library of Vienna, which added considerably to its value. It is worth notice, and is open at all hours; access is easily obtained by applying to one of the directors.

I MUST now mention some few excursions I had occasion to make in the neighbourhood of that city, which I always recollect with infinite satisfaction, and which enabled me to judge of the goodness and hospitality of the inhabitants.

THE first place I intended visiting was the city of Hall, in order to examine the salt mines, and then proceed to Mount Salzberg, or Mountain of Salt; at the foot of which that city is built. In my way thither I crossed the Inn, immediately on leaving Inspruck; and, following the course of the river, I passed through several rich and beautiful meadows, adorned with fruit trees, and watered by a number of small rivulets, which descended from the adjacent mountains. At other times my road led me across extensive fields of hops and flax intermixed; for the valley of Inn not containing any vineyards, the inhabitants, instead of wine, drink a kind of beer, made in the country, not of so deep a colour as what is brewed in London, but nearly as strong and as palatable.

THE distance from Inspruck to Hall being only seven or eight miles, and the road level all the way, I was not long before I reached it.

THIS



THE VALLEY OF INSTRUCK.

Published as the *Illustrations* Jan. 1. 1792. by T. G. Gordon, Widdell for the Author.

C. Gordon fecit.



THIS city is exceedingly pretty, and pleasantly seated on the banks of the Inn. It is not so extensive as Inspruck, but more commercial. Its buildings are superior, and more regular: among which is the Mint, which is large and well built. The die with which they stamp their coin is curious; and it is the only place where I have seen the machine by which the operation of coining is performed worked by means of water.

THE building where the process of cleansing and whitening the salt is carried on is worthy of notice, and it is effected in the following manner:—They evaporate by ebullition the fresh water from the brine, which is made by throwing into pits dug for that purpose, on mount Salzberg, a quantity of fossil salt and earth, found in a mixt state, on that spot, in great abundance. These pits, which are then filled with fresh water, serve to decompose those saline substances; for the earth, precipitated by its gravity to the bottom, leaves the water impregnated with the saline particles, which are conveyed from thence to Hall by wooden pipes, into several large coppers of nine feet in diameter, fixed in the building abovementioned. The water being thus totally evaporated, the salt is extracted from the coppers by a kind of rake. There are many people employed about it, and the whole process is carried on with great regularity.

THE salt mines of Salzberg, more generally known by the name of Hall, are particularly rich, as the greatest part of the mount is composed of fossil salt and earth intermixed, termed by Wallerius *Muria fossilis lapide mineralisata vel sal cædram spe.* 188. I brought from thence two beautiful crystals of fossil salt; one of them a light blue, and the other a reddish yellow of the species of *sal gemmæ solidum*.

THESE mines are supposed to yield annually to the Emperor upwards of 200,000 rix-dollars, clear of all expences.

THE base of mount Salzberg is composed of a kind of gypseous or selenite spar, or *spatum gypseum*, of a greyish colour, or white, covered in several places with large beds of lamellated schistus; but its summit contains a species of calcareous glimmer stone, which often spreads through the gypseous strata to the bottom of Weisenbach, east of the mount.

THIS valley, which is remarkably narrow, and the direct road to the mines, is curious, from the extreme variation and inclination of the different strata of the lateral mountains. A small torrent flows through the center of the valley, and makes a most frightful noise in descending rapidly from rock to rock till it falls into the Inn.

IN ascending mount Salzberg, about half way up, we find a small chapel, called St. Magdalene, situated at the entrance of two small vallies, the most romantic and picturesque imaginable.

THE one towards the west leads to the salt mines. Its soil is a kind of gypseous or selenite spar, of a grey or reddish colour, intermixed with beds of calcareous glimmer stone. This spot merits more attention than it was in my power to bestow, owing to want of time.

RETURNING

RETURNING through Hall, I again crossed the Inn, and passed by the hot baths of Egerdach, which are midway between that city and Inspruck. I then continued my route below the castle of Ambras, which I proposed visiting the next morning.

ALTHOUGH my excursion to the castle was not attended with a degree of satisfaction equal to what I experienced at the salt mines, I must not omit some particulars, as it certainly contains many things worth notice. I quitted Inspruck early the next morning, and took the road by which I entered the city in descending the Brenner, and directed my course towards the convent of Wilteau (which I have already described). I passed it on the left, and followed a road at the foot of a charming hill, which is the base of the high chain of the Brenner, covered with firs to the summit: I had not gone far, when I heard a tremendous noise resembling a water-fall, which increased considerably as I approached the castle: but, not seeing the least appearance of a river, I could not account for the violent gush of water which I now heard perfectly distinct; till, proceeding round a small rock, which projected into the plain, where I then was, I perceived a most beautiful cascade, formed by the waters of the Sill, which, precipitating themselves with great rapidity from the summit of huge rocks, through thick tufts of firs and larch trees (in which that country abounds) presented a magnificent and pleasing object. From thence I soon reached the foot of a small hill, on which is built the castle of Ambras, or Ambras. This edifice, which is at no great distance from Inspruck, was formerly the residence of the Archdukes of Austria. It is the opinion of several writers, that it was built by the Archduke Ferdinand; but it is without doubt of much greater antiquity; since it is proved that, in 1138, Henry, Duke of Bavaria, took it from Frederick, Duke of Swabia, his brother-in-law, by force of arms.

THIS castle is extensive, and kept in good repair by the present Archdukes. It contains several valuable and curious antiquities. There is a beautiful hall, which serves as an armoury: it being a repository for the different kinds of arms made use of since the time of the Romans, either in their battles or tournaments. In the same hall are likewise upwards of two hundred horses, curiously carved in wood, as large as life, with their Knights equipped in armour from head to foot, representing their greatest heroes for more than sixteen centuries. Their portraits, arms, and trophies are also shewn.

I WILL not attempt to enter into a minute description of the great variety of curiosities contained in the castle, as it would carry me too far. I must however just notice, that there are several cabinets, arranged with care and taste, consisting of medals, gems, fossils, shells, birds, &c. The paintings are also numerous, so that I particularly recommend the castle of Ambras to the inspection of either the naturalist or artist.

BEFORE I quit Inspruck, I must not omit giving a description of the valley of Inn, in which that city is built. It forms two divisions of the county, viz. Upper and Lower Inn;

Inn; and it extends from north-east to south-west. This valley is one of the most extensive, best cultivated, and populous of the Alps. It contains three hundred and twenty villages and hamlets, besides a number of castles and convents. It produces corn, salt, wood, and game, in great abundance. The soil is favourable to the culture of flax and hops. The inhabitants breed vast quantities of cattle. Minerals of different sorts are found in several places.

THE river Inn, or Ænns, from which it derives its name, flows in the center of the valley for upwards of thirty miles. It takes its source at the foot of mount St. Jule, in the country of the Grisons, and throws itself into the Danube, near Passau.

THE banks of this river are so fertile, and its views so picturesque, that they recall the idea of the enchanting borders of the Brenta in the environs of Padua. In many places these are however superior; for the beauties of nature here appear with more majesty and grandeur, owing to that high and tremendous chain of rocky mountains which serves to limit the valley. Its width, in many parts, is from four to five miles; in others it is so contracted that there is scarcely room for more than the bed of the river which meanders between a number of hills, highly cultivated and wooded, that appear the first step towards the superior chain of mountains.

ON the summit of many of these hills are small villages, most agreeably situated, whose steeples, covered with tin, shine through the tufts of trees, forming a pleasing contrast with the sable hue of the hill: and the soft vapour which covered the bottom of the valley (particularly at sun-set), presented to the eye a most finished landscape, worthy the pencil of Claude Lorraine.

AT other times, the scene changing, offered unexpectedly a view of the ruins of an ancient castle, seen in the back ground, on the edge of huge rocks; the base of which was concealed by firs and larch trees, whitened by the vapour issuing from a cascade or a torrent, precipitating down the summit of the neighbouring mountains. A striking instance of the instability of human productions. Our noblest works are liable to decay; whilst those of nature seem daily to regenerate and resume fresh beauty.

I SHALL always recollect with pleasure and satisfaction an excursion I made with my inn-keeper's son, a decent, amiable young man, and well informed in lithology. He had shewn me his collection, which was extensive and well chosen, consisting of every species of marble of that country, as likewise crystals and vitrescent stones, found in the vicinity of the Glaciers.

HIS proposal was for me to accompany him to a small country house belonging to his father, situated on a hill which commanded the greatest part of the valley, and from which the view of the adjacent country was extensive. I accepted his offer with pleasure, and determined on going the day preceding my departure.

HAVING set off, as we proposed, we directed our course northward, and ascended a hill composed of schistus. In about an hour we arrived at St. Maria, the small village where the good man's cottage stood. I was struck with its simplicity and neatness. It occupied a bold eminence, richly adorned with wood; was small, but extremely complete; built of wood, painted of a dark-green colour, and thatched. A large gallery projected on the outside, towards the declivity of the hill, covered and painted the same as the rest of the cottage, but beautifully ornamented with a variety of Alpine plants.

FROM hence the view was not only extensive but enchantingly diversified. I had not seen any to compare to it, except at Salanche, in Savoy, from a similar situation, when turned towards the bottom of the valley of the same name, which is terminated by mount Blanc: for although that mountain is more elevated than those which compose the Brenner, and that here limit the horizon, yet that view is not so extensive as this.

NOTHING can be more pleasing than the contrast between the rugged and furrowed peaks of that tremendous chain of mountains seen in the back ground incessantly covered with snow, and the rich and fertile meadows of the valley of Inn, its adjacent hills clothed with cattle, and fields yielding fruit, corn, and hops, in abundance.

It appeared like enchantment, and as though I had been transported imperceptibly from the frozen regions of Norway to the delightful valley of Piedmont or Lombardy.

HAVING staid nearly an hour, I quitted with regret that charming spot; but not till I had taken a drawing of the cottage and its gallery. With regard to the prospect, the attempt would have been beyond my abilities; for there are many objects in nature which we must content ourselves to admire, without daring to imitate them.

IN my way back to the Inn, I added to my collection of Plants the *Clematis Recta*, the *Lactuca Perennis*, the *Prenanthes Purpurea*, the *Iris Graminea*, the *Cineraria Helenitis*, &c. The remainder of the day I passed in arranging my plants, the various acquisitions I had made of stones, fossils, &c. since I had been at Inspruck, many of which had been given me by the inhabitants, of whose urbanity, hospitality, and good-humour, I shall ever retain the most flattering remembrance.



SECTION IX.

DEPARTURE FROM INSPRUCK—DESCRIPTION OF THE MINES AT NASSEREIT—BARRIER OF
TYROL—ARRIVAL AT FUSSEN, IN SWABIA.

IT was near twelve before I quitted Inspruck, intending to pass the night at the village of Nassereit, thirty miles from that city. The road, great part of the way, follows nearly the course of the river Inn on one side; and, on the other, a continued range of small hills, composed of schistus, of which some are in large strata, and others lamellated, forming different angles with the horizon.

THE thin strata of lamellated schistus, in some of those hills, are almost perpendicular; in others they form portions of eccentric circles. Some of them effervesce in a small degree with acids, and contain impressions of exotic plants.

THIS inferior range of hills serves to screen the base of the chain of mountains, whose arid and rugged peaks appear to be formed of granite.

AT three miles from Inspruck lies the White Valley, so called from its containing large quarries of white gypseous stones. It is narrow; and its direction extends from north to south, forming nearly a right angle with the course of the river. This valley is terminated by the base of mount Sollstein, which is an enormous mountain of granite, and part of the Verner.

THE road from thence is by the side of a long chain of perpendicular rocks, upwards of two hundred feet high, and one mile in length. They are called St. Martin's *Wands*, *i. e.* the Wall of St. Martin. On the highest of these rocks is a niche, in which is placed a cross with a statue on each side of it. The cross is supposed to be upwards of forty feet high; but, from its extreme height, it does not seem to exceed four feet.

IT was erected by Maximilian I. in commemoration of his fortunate escape, having nearly lost his life on that spot, when in pursuit of a chamois, or wild goat.

THE inhabitants, who are rather superstitious, relate a number of extraordinary stories; among the rest—that an angel having appeared to the Emperor, had indicated a path by which he avoided the danger that threatened him: but Hertius, in his History of Germany, tells us, that the Emperor, being eager in the chase, incautiously followed the animal amongst these craggy rocks, where he remained twenty-four hours, without seeing

seeing the least chance of extricating himself: but being accidentally perceived from a neighbouring valley by a young shepherdess; she instantly told her brother, who, fetching some cords, ran to his assistance, and, with much labour and fatigue, rescued him from inevitable death.

THESE rocks are calcareous, having their strata nearly parallel to the horizon, except in the environs of the valley of Ehe, where they incline considerably. They are a kind of calcareous *scintillans stratofus griseus*.

SOON after crossing this small valley, I arrived at the charming village of Zirl, which is most pleasantly situated at the entrance of the valley of Schlofs, where unite four capital roads, to Bavaria, Swabia, the Grisons country, and the city of Inspruck. It is likewise near the Banks of the Inn, which form in that part a most picturesque scene.

HAVING left the road to Bavaria on the right, the next place I came to was Dirfchenbach, three miles from Zirl, and nine from Inspruck. This small hamlet is seated at the entrance of the valley Nieder, in the middle of a plain, rich in corn and pasturage.

THE next village is Telfs, which lies at the base of the eastern extremity of a long chain of mountains, called Munde, whose direction runs nearly from east to west, forming, nevertheless, a portion of a circle, of which the curve faces the north.

FROM the center of that grand chain of granite rises mount Frairen Schritt, the highest peak of that extensive range, which, by its elevation, commands the inferior chain of the Verner.

THESE inferior mountains appear from the valley indiscriminately to incline towards that particular point, and seem mostly covered with calcareous strata, similar to those which cover the greatest part of the Brenner.

ON quitting Telfs the road no longer follows the course of the Inn, but leads to the north. At three miles from thence is the hamlet of Miemingen, which is picturesque, rural, and agreeably situated in the center of a plain, of a circular form, of which the northern extremity is terminated by mount Luden Kopflen, cut nearly perpendicular, concealing the base of mounts Miemingen and Frauen.

FROM Miemingen to Naffereit, which is the third post from Inspruck, the road is on a continual ascent, and its views diversified by prominent rocks, and grounds finely broken and adorned. Sometimes it leads through contracted vallies, richly shaded with thick tufts of trees, whose deep umbrage diffuses a coolness and serenity, producing the most pleasing sensations.

AT other times the appearance of a huge tremendous rock seemed to bar the passage, or a cascade descending rapidly from a neighbouring mountain appeared as if it would check all progress by the strong current of its limpid waters, or by the vapours that naturally arise from the waters dashing with such velocity from rock to rock.



THE BARRIERS at the CASTLE of EHREMBERG.

Published as the Act directs Jan'y 1798 by T. G. Gorton, Woodcut for the Author.

C. G. Gorton del.

A. R. Gorton sculp.



THE major part of these mountains, or at least the secondary range, are composed of schistus, or horn-stone; some of them hard, others lamellated, of the species of *corneus fissilis mollior*. Soon after sun-set I arrived at Naffereit, a village remarkably well built; and, from its desirable situation, it increases daily in consequence and extent. It is seated in the valley Gurgel, near the torrent of the same name; and is particularly rich in silver, lead, copper, and iron mines. The most considerable are those of Teugenstin, Dirschendritt, Reifenschuch, and St. Veil.

FINDING that this village was situated in one of the highest vallies belonging to the secondary chain of the Alps, I was determined to take its elevation, and found that it was nearly 2340 feet above the level of the sea, or 930 above the city of Inspruck.

ON leaving Naffereit I crossed the torrent Gurgel. The valley then becomes so narrow that one seems at a loss how to get out of it: however, a very rapid ascent conducts one into a small but elevated plain, where stands the castle of Vernstein.

THE chain of mountains which borders the above valley is extremely high; for the back range is continually covered with snow.

MOST of them are composed of granite, the strata of which are perfectly distinct, inclining to the east.

THE lower range differs considerably in elevation. Some of them are formed of schistus horn-stone, or a species of calcareous lamellated stone.

ON the right, near the castle of Vernstein, are found large banks of sand-stone, or *cos ædificialis*, of a blueish colour, which is soft when first taken out of the quarry, but soon hardens when exposed to the air. This stone effervesces in a small degree with acids; or, more properly, this is the case with the glutinous parts which cement the sand and compose that species of stone. This bed of strata appears to form the bottom of the small lake of Sigmundsburg: for strata of the same kind are visible on the opposite side of the lake, which takes its name from a large ancient castle, situated nearly in its center, standing on the lonely peak of a huge rock, that seems starting from the midst of its limpid waters. This castle, from its tremendous situation, appears inaccessible. It is of a Gothic form, and flanked by four round towers.

THE castle of Vernstein is partly ancient and partly modern, nevertheless, it serves as the key to the defile. It is well fortified, and its situation strikes the traveller with surprise, being on the edge of an enormous rock, shelving over a frightful precipice, through which runs the torrent Klans, making a most hideous noise. It is necessary to cross this precipice, in order to get into the road, which passes through the outward yard of the castle, over a wooden bridge of extreme height, which is demolished in time of war to cut off all communication. The road passing as it were through the

castle, every traveller is required to shew his passport to the commanding officer belonging to the detachment, which the house of Austria always keeps there in garrison.

HAVING crossed a small guard-house, half a mile from the castle, the descent becomes rapid, and the mountains, which contract the valley, are so steep and so high that it has been found necessary to erect a parapet along the road in several places, to render it less dangerous to travellers.

I PURSUED my route by the side of three small lakes, which nearly fill the bottom of a charming plain, about two miles in extent, surrounded by several hills, covered with Alpine trees. A number of small cascades, which descend from the neighbouring mountains, mix their transparent waters with those of the lakes Blind-See, Mitter-See, and Weifen-See; the latter of which I crossed, and proceeded to the silver mines of Silber Leute, which lie at the foot of mount Sonnenpiz, and I then passed through the village of Byerbier, noted for its hot mineral springs, which are aluminous and sulphureous. Not far from hence is the village of Lermos, which is the next post. It is particularly swampy, although seated on an eminence, owing to the excessive height of the surrounding mountains, which renders the small valley in which that village is built a receptacle for the waters, which descend rapidly on all sides.

THE most considerable mountains on the east of Lermos are the Wetterfchrofen, the Tiefen, and the Blattach, always covered with snow. The last has an extensive Glacier belonging to it, called Blattacher Ferner. These mountains are a continuation of the chain of the Verner. On the south-west are the mounts Grubacher, Nieden, Bleyispiz, &c.: this secondary chain is less elevated than the other, being mostly covered with trees, except the high and rugged peak of the Gartner.

ON leaving Lermos the road is on an ascent the whole way to the village of Wengle, at which place the valley widens considerably, and then a continued descent leads to Fussen.

THE road being particularly steep from Nassereit, I preferred walking to Buchlbach, a charming village between Lermos and Heiterwang; for the horses going slowly, on account of the heavy ascent, I soon got before them, and by those means had an opportunity of enjoying the most rural, charming, and picturesque scenes.

By way of giving a just idea of the character and amusements of the happy inhabitants of this country, I must not omit the description of a *fête champêtre* I was witness to in my way from the above village, and in which I very unexpectedly participated.

It is customary among the young Tyrolese, whilst paying their addresses to a favourite lass, to place, or plant a tree at the door of her habitation, which is generally a species of fir, called in that country May, or Tree of the Feast. It is found in great abundance on the adjacent hills which surround their villages. They consequently take the largest
they



CATARACT OF THE RIVER LECH.

Published as the New Series for 1891 by J. P. Colver, Mitchell for the Author.

J. P. Colver del.

J. P. Colver fecit.



they can carry, peel off the bark, and strip it of its branches, leaving just enough towards the top to form a kind of bouquet, to which is hung garlands of flowers, tied together with strings, or ribbands of the colour most worn by the young woman; for the colour serves to distinguish the favourite, in case there should be several daughters in the same house; as also by way of declaration to the young men of the adjacent villages that no new suitor can be admitted.

THE day on which the tree is placed is their grand gala, as their union is then looked upon as certain. Both families meet; fathers, mothers, and grandfathers, are not forgotten, who frequently travel a great way to share the happiness of their children.

THIS rural festivity takes place twice a year, till the marriage is celebrated: many happy unions are formed by means of these innocent and agreeable amusements; and they contribute in a great measure to the natural good-humour and sprightliness which characterize the Tyrolese.

THE gala I was witness to was similar to what I have described; for, soon after quitting Buchlbach, I perceived in a meadow, at some distance from the road, a concourse of people assembled near a cottage. Having stopped a few moments to satisfy my curiosity, I plainly discerned a group of young folk, collected round a tree, decorated with flowers, executing dances peculiar to their country; such as walses, allmandes, &c. to the sound of their favourite music, which is a kind of clarion, accompanied by the olier flute mentioned in a former section. The old people were seated on wooden benches of a semi-circular form at the front of the house, and seemed equally to enjoy the pleasures of the day, forming altogether a subject worthy the pencil of Teniers.

Not being as yet sufficiently gratified, I entered the meadow, when two of the young men, perceiving me, immediately came up with great courtesy, inviting me to accept of some refreshment and join their party; but, finding that I did not clearly understand them, as they spoke German, one of them fetched a venerable old man, who repeated the same solicitations in Italian, with so much cordiality and good-humour, that I found myself obliged to acquiesce. During the short stay I made with them, I gained the above intelligence. Indeed I could have wished to have lengthened my visit, in order to inform myself more particularly in regard to the customs and manners of the country, being persuaded that by conversing with that honest class of people one frequently gains much necessary information towards justly characterizing the inhabitants of a country. After accepting of some refreshments, which they offered in profusion, I took my leave, thanking them for their cordial welcome, without daring to offer payment; fearing to receive an answer similar to that given by a country woman of Contamine (a village on the road to the Glaciers in Savoy) to Mr. De Sauffure, who, wishing to pay for some pears
which

which he had picked up from under a tree, belonging to this good woman, "Eat them," said she, "and welcome: it was not for payment that I came hither. He that supplied us with that fruit, did not send it for me only." See Mr. De Saussure's *Voyage in the Alps*, vol. ii. p. 142.

THESE honest mountaineers have not studied, it is true, what is generally styled the Graces, or the arts and manners of polished life: but to make up for that deficiency they are free from the dissimulation and unfeeling selfishness, which are the general growth of populous cities. Their happiness does not consist in profusion or expensive pleasures, but in the blessings of nature, which they know how to value, and which cost them nothing, whilst the latter pay dear for their transitory and unsatisfactory enjoyments.

THE distance from Wengle to Buchlbach does not exceed three miles; and the road is on a rapid descent to the village of Heiterwang, which is pleasantly situated, although surrounded by calcareous mountains, some of them tolerably high.

I LEFT this village, which is extensive, and seated almost on the banks of a charming lake, of the same name, which communicates with another much larger, of an irregular form, and particularly romantic, called *Plan See*; and I crossed the Lachen, a small torrent that flows at the extremity of a valley, through which I had passed in my way to Heiterwang.

THE road again becomes very much contracted by the lateral mountains, which form a defile, strengthened by fortifications at the bottom of the valley, and commanded by a fortress, seated on an eminence called Hochschang. The two ranges of mountains which form its screens approach so near that there is but just room for the road, so that one is perfectly immured between them.

THE fortress of Hochschang, which from its situation appears inaccessible, was taken in the war of Smalcalde by the chief of the allies, in 1546, and afterwards by Maurice, Elector of Saxony, who was at the head of the league against Charles V. in 1552, composed of the Elector of Brandenburg, the Duke of Wirtemberg, the Count Palatine of the Rhine, besides other Princes.

THE pretence of the war was to liberate the Landgrave of Hesse, who was retained prisoner by the Emperor. The allies, having rendered themselves masters of the defile of Ehrenberg, and taken possession of its fortifications, marched to Inspruck, where they were very near making the Emperor and his brother Ferdinand prisoners; who, relying entirely on the strength of their citadels, &c. (at that time badly supplied with provisions), were actually sitting down to dinner, when they were informed, that the Elector and his army were at the gates of the city. They had scarce time to escape and save themselves at Passeau, where they soon collected an army, and forced those Princes to agree

to

to an accommodation. What is most singular is, that the allies partook of the dinner intended for the Emperor and his brother.

HAVING passed the fortifications at Ehrenberg, I arrived at Reitti, an extensive village, seated on the banks of the river Lech. From thence to Kniepafs (which is a small fortress) the valley widens, and the mountains decrease considerably in height, so that near that defile one may fix the termination of the secondary mountains and the commencement of the third order, which continue till we approach Füssen. This fortress is on the banks of the river Lech, and at the foot of mount Seiling, which serves to defend Tyrol on the side of Swabia. The valley again widens, and the road follows the course of the beautiful river Lech, till one arrives at the small village of Zoll, near which is the *cataract* of the Lech: not far from thence one quits the states of Tyrol to enter the circle of Swabia; and within a mile of the city of Füssen stands a cross, placed on an eminence contiguous to the road, which marks the limit of the Tyrolese states.

FUSSEN is very ancient, and was formerly called Oppidum Faucense; it is well built, the streets are tolerably wide and regular, and it is considered as one of the handsomest cities in the bishopric of Augsbourg. Its trade is considerable, and particularly in leather.

BEFORE I conclude this abridgment of my Travels through the Rhætian Alps and the county of Tyrol, I must caution those of my readers who propose going from Germany to Italy, to provide themselves with a passport, in order to prevent any obstacle to their passing from one state to the other; for, at the first barrier, on entering the county of Tyrol, which is Kniepafs, the passport must be signed by the principal officer belonging to the detachment then in garrison, and again at the small city of Reitti, where permission is granted for passing through the fortifications of Ehrenberg, without which it is impossible to proceed, as the orders of the State are very strict, that they may be informed of the rank and number of people that enter the county.

I SINCERELY wish that this hasty sketch of observations, made in my last excursion to the Alps, was more useful and interesting, particularly to the amateurs in natural history, and to those who intend visiting those places. But it is hoped they will make allowances for that want of time which prevented a traveller from giving so much scope to his observations as he could have wished.

I CAN, nevertheless, assure them that I have described the scenes just as they appeared to me. I might probably have been more accurate, could I have commanded more time for general remarks; but I have contented myself with stating plainly and simply what seemed chiefly to merit the attention of the geologist and lithologist, without giving any decided opinion; although I found, in several places, evident proofs to persuade me that the sea had at different periods covered our continents, and that the retreat of the waters had been precipitate only to a certain height, after which it had been more gradual.

I HAVE visited several parts of the Alps and Pyrennees; but must still wait for an opportunity of continuing my observations on the relative height of the primordial and secondary mountains; their situation and direction; as also those of the different glaciers, the upper and lower vallies, the course of the rivers, &c.: I shall then probably be tempted to offer to the public my opinion on the various revolutions which have affected that tremendous chain of mountains.

FROM what I have seen and observed in the Alps, I am strongly of Mr. de la Métherie's opinion on the formation of our continents, viz. 1. That the waters have certainly covered the highest mountains, even those of Granite. 2. That they have a motion from the equator to the poles, and from the poles to the equator. 3. That the interior part of our globe contains a number of caverns, into which part of the waters precipitate themselves. This latter observation is generally understood by most of our modern geologists; in short, that the poles of the equator and the ecliptic approaching and retreating alternately from east to west, they must at certain periods be parallel. See the *Journal de Physique* of L'Abbe Rozier, for the month of December, 1791, page 445. This hypothesis of Mr. de la Métherie's corresponds partly with an idea of my own, which I communicated eight years ago at Nice to a Mr. Bosanquet, who had accompanied me in some of my pedestrian excursions. This idea suggested itself to me at the appearance of a range of mountains composed of sand, situated immediately at the back of the secondary chain of the Maritime Alps towards the south.

I DEFER entering into a more ample detail at present, as I propose offering to the public some time hence an account of my journey from Italy to France by the Col de Tende.

THE END.





COURSE of the LECH toward FUSSEN

Published in the *Atlas de la Suisse*, 1792, by J.B. Spon. Which all further notice

C. Spindler, sculp.

C. M. B. 11.



EXPLANATION OF THE DIFFERENT PLATES.

PLATE I.

PASS OF CHIUSA.

THE Rocks on the left are calcareous, and filled with Marine Substances, projecting above the River, which formerly joined those of the opposite Mountains. In the Center are the Mounts Carbiolo, Cambon, and Pozzete; the last is the highest Peak of Mount Baldo. The Road to Trent passes through the Arch on the right, which serves as a Barrier to the State of Venice. The Fort of Chiufa is built on a Rock, which is a Continuation of the Mounts Mendola and Volargne.

PLATE II.

SUMMIT OF THE BRENNER.

On the left is a Cascade of the Eifach: this River takes its Source at the Back of the Mountain, where the Cross is placed, which is the Beginning of the small Plain on the Summit of the Brenner. In the Back Ground is the Kreuzioch, a steep Rock, composed of Granite, covered in several Places with phosphorous calcareous Strata. The Rocks about the Cascade are Schiftus. Wexel the lowest Mount. The Rock on the right, which rises perpendicularly, is composed of large Pieces of Granite. The Sides of the Road are covered with phosphorous Marble.

PLATE III.

VERNER MOUNTAINS, AS SEEN FROM EGERDACH, NEAR INSPRUCK.

Road from the Village of Ampas to the Mineral Springs of Egerdach, which is the same as from Mattrey to Hall. Rumerioch the highest Peak; this Mountain is entirely composed of Granite; its Base is surrounded by Hills of Schiftus and Gypsiferous Stones. The City of Hall, seated on the Banks of the Inn. Road to Hall across a fertile and cultivated Meadow. Hanfeven, a small Village, in the Middle of the Plain. Speck-korn, the highest Mountain of the Verner; those which are near it are the Taurer and Salzberg; behind the last are the Salt Mines of Hall.

PLATE IV.

VALLEY OF INSPRUCK.

The Mountain on the left is a Continuation of Patscher-Kofal, which forms Part of the inferior Chain of the Brenner. In the Center is the Convent of Wilteau. Gottfen the highest Peak; at the Foot of which are Copper Mines. The other Mountains are the Gozner and the Nocker. Road from the Castle of Ambras to Inspruck. Cascade of the Sill on the left. The City of Inspruck on the right, seated on the Inn, at the Foot of the Ploettingen, a Hill where the Village of St. Maria is built.

PLATE

EXPLANATION OF THE DIFFERENT PLATES.

PLATE V.

VERNSTEIN BARRIER.

Castle of Vernstein, one of the Barriers of Tyrol, built on the Edge of a steep Rock, at the Foot of which runs the Torrent Klans. The Mountain at the Back of the Bridge is called Lorea; it is calcareous and covered with Trees. Mount Vanech the highest Peak; at the foot of which are the Mines of Fengenstain, in the Environs of Naffereit. The Base of this Mountain, is a Species of lamellated horn-stone. Sigmundsburg, an ancient Castle, flanked with four round Towers, seated on a Rock nearly in the Center of the Lake. The Rock appears like large Stones heaped one upon another. The Mountains, in the Back Ground, covered with Snow, are Part of the Chain called Munde.

PLATE VI.

EHRENBURG BARRIER.

Mount Xlans Wald is on the left, and nearly perpendicular. The River Lech runs to the west of this Mountain. In the Center are Mounts Panondurn and Sanreck on the Confines of Bavaria. Ehrenburg Castle, at the Foot of which the Road passes through a Defile strongly fortified. The distant Mountains are in Bavaria, and always covered with snow. On the right is a Convent of Friars.

PLATE VII.

CATARACT OF THE LECH.

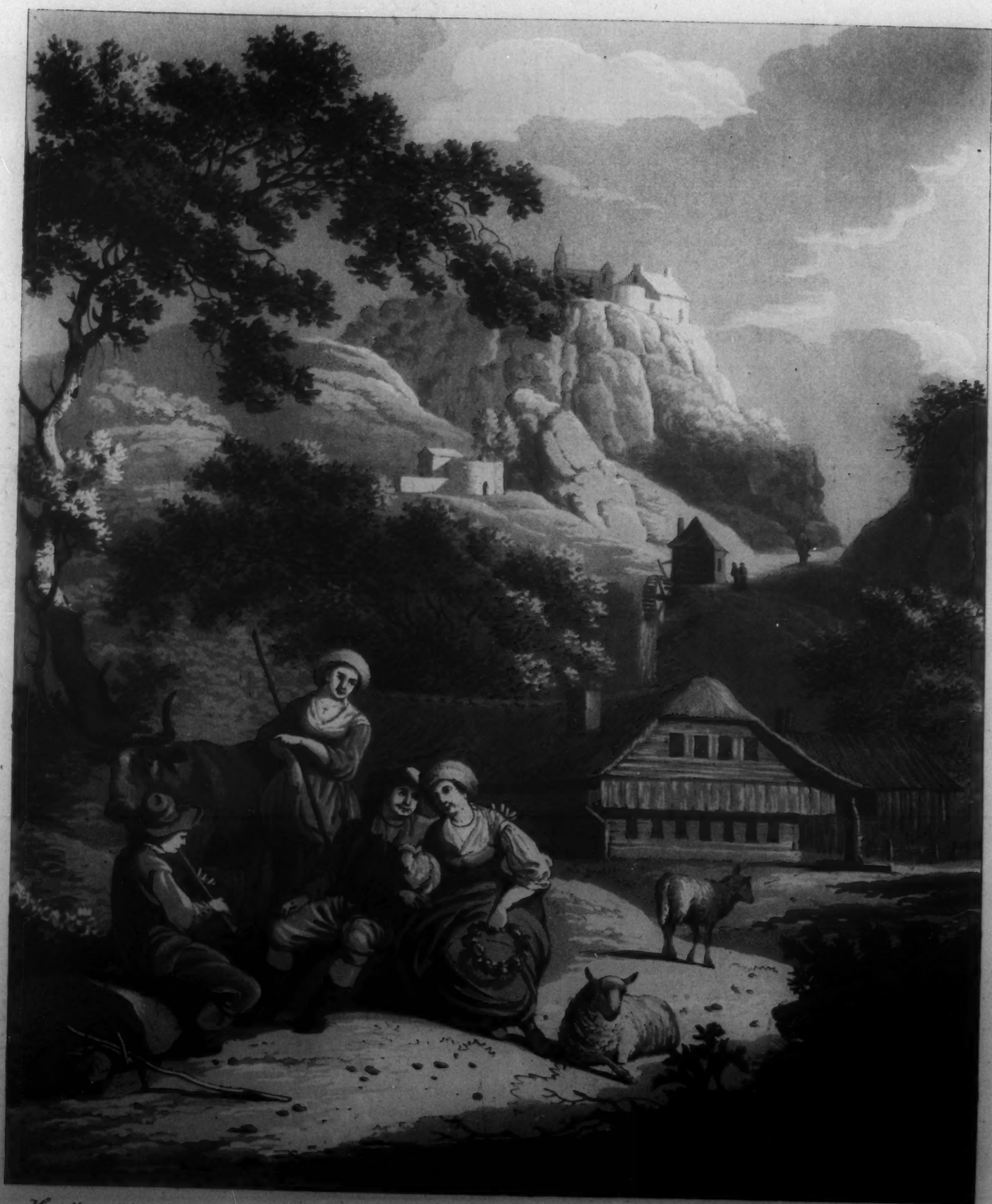
High Road from Inspruck to Fussen, in Swabia, which is on a rapid Descent from the Schwage, a Hill composed of huge Pieces of Granite, which decompose easily, although the adjacent Mountains are mostly calcareous. The Cross serves as a Limit between the County of Tyrol, and the Bishopric of Augsbourg. Cataract of the Lech, which appears to have forced its Way through the Rock, that forms a Kind of Cavern. The distant Mountain is Ogl, in Bavaria. The others are Seiling and Durn, on the Borders of Tyrol.

PLATE VIII.

COURSE OF THE LECH TOWARDS FUSSEN.

High Road to the Village of Heten, situated to the North of Fussen, which is also the same to the City of Ulm. The Mountains in the Back Ground are on the Confines of Bavaria. Fussen on the Banks of the Lech, which winds considerably near the City.





H. Meyer del.

G. Spontini sculp.

THE MIDDAY REGALE of the TYROLESE

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